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Technical Report

The Alberta Youth Experience Survey 2002

AADAC

ACKNOWLEDGMENTS

The success of this project depended on the good will of the 3,440 students who freely described their experiences and the support of over 100 school principals, teachers and administrative staff across Alberta. AADAC also thanks the parents who provided permission for students to participate. School principals preferred to be thanked privately, not in public, and AADAC has done so.

The research project team asked a random selection of 41 school boards to participate and was most gratified by the support of the 39 who agreed to allow the team to conduct *The Alberta Youth Experience Survey 2002* (TAYES) in their jurisdiction. By way of thanks, a list of the 39 participating school board names is included in *The Alberta Youth Experience Survey 2002 Summary Report*. Surveys of this kind can raise public concerns and the survey team was aware that boards get many requests by researchers to conduct studies. In AADAC's and the survey team's view, the support of the boards for this project speaks strongly of their concern for Alberta's youth.

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EXECUTIVE SUMMARY

Alcohol

Use

- ☐ 43.7% of students were non drinkers compared to 56.3% who had drunk alcohol in the last 12 months.
- ☐ A higher percentage of youth from small metro (48.8%) and rural (48.9%) locations were non drinkers compared to other locations.
- ☐ The Edmonton Region and South Region had the highest percentage of non drinkers (45.3% and 55.5% respectively).
- ☐ The percentage of students who were non drinkers decreased by grade.
  - 82.4% of grade 7 students and 62.7% of grade 8 students were non drinkers.
  - 47.6% of grade 9 students were non drinkers.
  - There is a notable transition at grade 10, where 29.3% of students were non drinkers.
  - 26.7% of grade 11 students and 18.8% of grade 12 students were non drinkers.
- ☐ More females (46.4%) than males (40.3%) were non drinkers.
- ☐ A higher percentage of non Aboriginal students (43.9%) than Aboriginal students (34.8%) were non drinkers.

Note: Non drinkers refer to those students who indicated they "drank alcohol, but not in the last 12 months", "never drank alcohol" or "had a sip to see what it is like". Drinkers include those students who selected any other response (see question 32).

Signs of Alcohol Abuse

- ☐ 87% of students did not report signs of abusing alcohol.
  - 52% scored 0 on the AUDIT. This group of students included those who drank alcohol, but not in the last 12 months; never drank alcohol in lifetime; and had a sip of alcohol to see what it was like as well as those who drank only at special events and scored 0 on all remaining questions in the AUDIT.
  - 35% scored 1-10 on the AUDIT. This group of students includes those who drank in the last 12 months (including those who drank at special events and scored 1 or more on the remaining questions in the AUDIT).
- ☐ 13% of youths reported signs of abusing alcohol.
- ☐ Youths in urban areas of greater than 500,000 population were more likely (14.8%) and youths in non metro areas were less likely (9.8%) to report signs of alcohol abuse.
- ☐ The percentage of youths who reported signs of abusing alcohol in Edmonton (14.3%), Calgary (13.9%) and Central regions (13.6%) was notably higher than youths from the South (9.5%) and the North regions (11.2%).
- ☐ Students in grades 11 and 12 were more likely to report signs of abusing alcohol (23.9% of grade 11 students and 24.2% of grade 12 students).

- A higher percentage of males than females (16.8% and 10.1% respectively) reported signs of abuse.
- A higher percentage of Aboriginals than non Aboriginals (34.5% and 12.3% respectively) reported signs of abuse.

Tobacco

- 83.8% of Alberta youth had not smoked a cigarette in the last 12 months.
- Grade 7 and 8 students had the highest percentages of non-smokers. 98.2% of grade 7 students and 94.1% of grade 8 students reported not having smoked within the last 12 months.
- 69.6% of grade 12 students reported having not smoked in the last 12 months.
- 84.4% of non Aboriginal youth and 63.4% of Aboriginal youth had not smoked within the last 12 months.
- Frequency of smoking everyday increased by grade. 13.3% of grade 12 students reported smoking cigarettes every day. Grade 10 students reported the highest occasional use (12.9%).
- 92.2% of students had not used chewing tobacco or snuff in the last 12 months.

Cannabis and Other Drugs

- 27.6% of Alberta youth had used cannabis (marijuana or hash) in the last 12 months.
- 32.4% of youth in urban areas with a population of greater than 500,000 had tried or used cannabis compared to 19.6% of youth in rural areas.
- The percentage of youth who had used or tried cannabis varied by region. The highest percentage of youth having used or tried cannabis was in the Edmonton (31.1%) and Calgary regions (30.9%). The lowest reported level of use was in Southern Alberta (17.3%).
- There was a notable difference in use by grade. Grades 7 and 8 had the lowest percentage of cannabis users and Grades 10 to 12 had the highest percentage. There was a substantial jump in the percentage of users from grade 8 (10%) to grade 9 (20.5%) and from grade 9 to grade 10 (41%).
- 29.9% of males and 25.9% of females reported having used cannabis.
- 52.1% of Aboriginal youth had used cannabis compared to 26.8% of non Aboriginal youth.
- The vast majority (over 94%) of youths reported not having used cocaine, crack, hallucinogens, inhalants, uppers, downers, club drugs, steroids, and heroin or opium.
- There were some notable differences by grade:
  - 6.8% of grade 7-9 students reported having used inhalants compared to 4.6% of grade 10-12 students.

- With the exception of inhalants, grade 10-12 students reported higher use of all other drugs than grade 7-9 students.

- The most popular other drug for grade 10-12 students was magic mushrooms (15.3%) followed by club drugs (7.6%) and hallucinogens (6.1%).

Gambling

Gambling Participation

☐ Scratch tabs (30.8%), playing cards for money (23%) and betting on sporting events with a friend (21.1%) were the highest reported gambling activities.

☐ A higher percentage of grade 10-12 students participated in gambling activities compared to grade 7-9 students except for playing bingo.

  - 11.8% of grade 7-9 students reported playing bingo compared to 7.3% of grade 10-12 students.

Gambling Problem Severity

☐ 58.8% of youths were non-gamblers and 31.7% were non-problem gamblers (when frequency of use and SOGS-RA scores were combined).

☐ 5.7% were hazardous gamblers and 3.8% were potential problem gamblers (when frequency of use and SOGS-RA scores were combined).

Note: Refer to p.116-117 for descriptions of gambling problem severity levels.

Risk and Protective Factors with ATODG

Correlations: Risk Factors

☐ Peer risk behaviour had the strongest relationship with each of the dependent variables.

Correlations: Protective Factors

☐ Social skills and parental monitoring had the strongest relationships with each of the dependent variables

Cumulative Effects: Risk Factors

☐ As the number of risk factors increases, the cumulative percentage of students who used alcohol, tobacco, cannabis and magic mushrooms and participated in three gambling activities in the last 12 months increases.

Cumulative Effects: Protective Factors

☐ As the number of protective factors increases, the cumulative percentage of students who used alcohol, tobacco, cannabis and magic mushrooms and participated in the three gambling activities in the last 12 months decreases.

Multiple Regression: Variance Explained by Risk Factors

- ❑ The risk factors explained 35% of the variance in hazardous and harmful alcohol use, 31% of the variance in tobacco use, 44% of the variance in indicators of cannabis dependence, and 46% of the variance in gambling dependence.

- ❑ A summary of the five most important risk factors for hazardous and harmful alcohol use, tobacco use, indicators of cannabis dependence and gambling dependence revealed that:

  - Age was one of the top five factors for all of the abuse measures.
  - Family history of substance abuse and peer risk behaviour were included in the top five factors for three of the abuse measures.

Multiple Regression: Variance Explained by Protective Factors

- ❑ The protective factors explained 24% of the variance in hazardous and harmful alcohol use, 16% of the variance in tobacco use, 15% of the variance in indicators of cannabis dependence, and 11% of the variance in gambling dependence.

- ❑ A summary of the five most important protective factors for hazardous and harmful alcohol use, tobacco use, indicators of cannabis dependence and gambling dependence revealed that:

  - Parental monitoring and social skills were in the top five factors for all of the abuse measures.
  - Availability of and participation in pro-social activities were in the top five factors for three of the four abuse measures.

Summary Table

Percentage of students who used alcohol, tobacco, cannabis, other drugs and participated in gambling activities in the last 12 months

	Overall	Grades 7 - 9	Grades 10 - 12 (< 20 years)
Used Alcohol			
Alcohol	56.3	35.8	75.4
Used Tobacco			
Smoked cigarettes	16.2	7.2	24.6
Chewing tobacco or snuff	7.8	4.3	11.0
Used Cannabis			
Cannabis	27.6	11.8	41.9
Used Other Drugs			
Cocaine	2.9	0.5	5.1
Crack	2.8	0.8	4.7
Hallucinogens	3.9	1.6	6.1
Inhalants	5.6	6.8	4.6
Uppers without a prescription	4.0	2.1	5.6
Downers without a prescription	2.3	1.7	2.9
Club drugs	5.3	2.7	7.6
Steroids	1.2	0.7	1.6
Heroin or opium	1.4	1.1	1.7
Magic mushrooms	10.4	5.0	15.3
Participated in Gambling Activities			
Bet on sporting events on-line	3.2	3.2	3.3
Played cards for money	23.0	18.5	27.1
Bet on sporting events with a friend	21.1	18.2	23.7
Played video lottery terminals (VLTs)	3.3	1.4	5.1
Played bingo	9.5	11.8	7.3
Played Sports Select lottery	3.7	1.9	5.4
Played any other lottery	6.7	5.7	7.6
Played scratch tabs	30.8	25.9	35.4

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1. INTRODUCTION

1.1 Overview of the Technical Report

The purpose of this technical report is to fully document the research process and the major findings of this study.

In Section 1, the purpose and rationale for the study are described and the conceptual framework is presented.

Section 2 provides details about the survey instrument, sampling methodology, approval process, response rate, data collection procedure, and limitations.

Section 3 provides background information pertaining to data processing, quality control measures, internal/external checks, weighting, analyses performed and scale construction.

The survey's results are presented in sections 4 through 11. Sections 4 through 10 provide descriptive results for the main dependent and independent variables. Section 11 provides correlation, cumulative effects and multivariate results examining the relationships between risk and protective factors and the use and abuse of alcohol, tobacco, other drugs and gambling.

In Section 12, recommendations are made for the future implementation of the survey. Section 13, provides a listing of additional reports based on the findings of this study.

1.2 Purpose and Rationale

Adolescent drinking, other drug use, smoking and, more recently, gambling have been persistent public concerns for at least four decades in Canada (Adlaf, Ivis, & Smart, 1997). Adolescent substance misuse and abuse has been identified as a barrier to high school completion (Alberta Learning, 2001), a factor in school conduct problems (American Academy of Pediatrics, 1995), a cause of premature loss of life and disability (Inaba & Cohen, 2000; Kinney, 2000), and related to a host of other social ills including crime, mental and physical disabilities, and family dysfunction (Hawkins, Catalano, Morrison, O'Donnell, Abbott, & Day, 1992). Due to its more recent history, research examining the problem consequences of gambling among adolescents is far less extensive and our knowledge less certain.

Major alcohol and drug surveillance studies in Canada and the United States have shown declines in substance use during the 1980s, followed by increases in the 1990s (Adlaf, Ivis, & Smart, 1997; Johnston, O'Malley, & Bachman, 2001). The use and abuse of new drugs have appeared while the use and abuse of others have declined. The nature of progression in use from softer to harder drugs also appears to have changed (Golub & Johnson, 2001). Most recently, long term monitoring surveys show that both increases and decreases in drug use occur at the same time; some drugs increase in popularity while others decline and still others show no change (Adlaf et al., 1997; Johnston et al., 2001). The shifting nature of alcohol and drug use requires agencies like the Alberta Alcohol and Drug Abuse Commission (AADAC) to have the most up to date information on adolescent alcohol and other drug behaviour.

The purpose of this study is to address the following questions about alcohol, tobacco, other drugs and gambling behaviour (hereafter referred to as ATODG):

- What proportion of Alberta students use ATODG?
- What proportion of Alberta students use ATODG frequently?
- What proportion of Alberta students use ATODG in ways that are harmful?
- Do these results differ by region, gender, grade and other important factors?
- What proportion of Alberta students have higher and lower levels of risk?
- What proportion of Alberta students have higher and lower levels of protection?
- What is the relationship between risk and protective factors and ATODG?

By answering these questions, this study provides a benchmark for the province of Alberta so that future editions of *The Alberta Youth Experience Survey 2002* will be able to examine trends in alcohol, tobacco, other drugs and gambling behaviour. AADAC and others involved in helping youth lead healthy and productive lives, depend on having current, reliable information upon which program decisions can be based.

1.3 Conceptual Framework

The following discussion presents the conceptual framework which was used to guide this study and the presentation of results.

The first consideration in the conceptual framework is ATODG use and abuse. The survey examines any ATODG use in the past year, frequent use and harmful consequences of alcohol, tobacco, other drugs and gambling. Each of these ways of looking at adolescent ATODG behaviour helps focus our attention on what, if anything, needs to be done.

The second consideration in the conceptual framework is the "risk and protective factors" framework we have adopted. The survey addresses ATODG use and abuse as well as risk and protective factors that are closely associated with the development and prevention of ATODG problems. If we only collected information on ATODG use and abuse, we would only know what happened in the past. To develop an effective benchmark, we need "leading indicators" instead of "lagging indicators" and we need to collect information on those indicators repeatedly. The science behind our ability to foretell the future is limited, but has coalesced sufficiently in the last 35 years for us to frame important questions about factors that present risks for and protection from ATODG abuse.

The proposed framework is an attempt to develop an effective benchmark based on leading rather than lagging indicators. The framework organizes a potentially vast array of interesting questions in a meaningful way and allows us to choose a pertinent few questions as a focus. *The Alberta Youth Experience Survey 2002* has organized risk and protective factors into five areas or domains: individual, peer, family, school, and community. This classification is consistent with the research literature (see George, Munro & Huebert, 2002).

While there is valid scientific reason to organize the research this way (see Hawkins et al., 1992), AADAC's decision was based on practical programming needs. Our experience and the research both show that if an individual has a problem, it affects and is affected by peers, family, school and community. In short, it is rare to find, for example, a youth that has an "alcohol problem" without finding a community, peer groups and families that have the same problem. Much more importantly, our practical experience has shown us that healthy adolescents are often surrounded by healthy friends, go to healthy schools and live in healthy families and communities. Research conducted over the past ten years has made substantial progress in confirming many aspects of AADAC's observations.

1.3.1 Dependent Variables

The study's dependent measures are alcohol, tobacco, other drugs and gambling use and abuse. Alcohol, other drugs and gambling use is not necessarily abuse. For this reason, researchers have looked at these areas in terms of *use*, *frequent use* and *abuse*.

Definitions and measurement of alcohol and other drug use and abuse are reasonably well-known. There is also substantial agreement on defining and measuring gambling use. Although validated measures of gambling abuse among adolescents are available, the field is newer and efforts to improve measurement are under way.

There are sufficient harms and a lack of evidence of health benefits caused by tobacco use which indicate that it is unnecessary to distinguish between frequent tobacco use and abuse. Tobacco use was measured in a manner consistent with the Canadian Tobacco Use Monitoring Survey (Statistics Canada, 2001).

Alcohol use, other drug use and gambling participation was defined as any use or participation within the 12 months preceding the administration of the questionnaire. Frequent use was defined as use on a monthly, weekly or daily basis.

Alcohol abuse was measured by the Alcohol Use Disorders Identification Test, hereafter referred to as AUDIT (see Babor, Korner, Wilber, & Good, 1987). The AUDIT assesses "hazardous or harmful" drinking. This test is described in further detail in Appendix A.

Cannabis abuse was measured by the Indicators of Cannabis Dependence Scale developed by Adlaf and Paglia (2001). Cannabis users were classified according to the number of indicators of cannabis dependence. Refer to Appendix A for a detailed description of this scale.

Gambling abuse was measured by a combination of gambling frequency and the South Oaks Gambling Screen - Revised for Adolescents, hereafter referred to as SOGS-RA (see Winters, Stinchfield, & Kim, 1993). SOGS-RA identifies "at risk" and "problem" gamblers. The combined measure differentiates between four levels of gambling problem severity. These measures are described in further detail in Appendix A.

1.3.2 Independent and Covarying Measures

The independent and covarying measures in this study are risk and protective factors. Most of the independent and covarying measures included in the study are described in a risk and protective factors framework. In general, the greater the number of risk factors, the greater the likelihood of developing substance abuse/gambling problems and the greater the number of protective factors, the lower the likelihood of developing substance abuse/gambling problems.

Causality has not yet been established for many risk and protective factors. Some may be markers and some may be true causes. All factors included in this study have been identified as important correlates because the research literature demonstrates relationships between these factors and substance abuse problems. In general, it should be noted that younger children tend to have greater access to protective factors and less exposure to risk and that males tend to be at higher risk than females.

The risk and protective factors framework associated with the work of Hawkins, Catalano and Miller (1992) and Newcomb and Felix-Ortiz (1992) organizes over thirty years of detailed research findings in substance abuse and presents an important way to make sense of the large number of complex interactions that affect the development of problems. Research examining risk and protective factors is critical for the development of treatment and prevention programs

Risk factors are defined as either life events or experiences that are statistically associated with an increase in problematic behaviours such as alcohol use, other drug use and problem gambling (Hawkins et al., 1992).

Protective factors are defined as life events or experiences that mediate or moderate the effect of exposure to risk factors resulting in reduced incidence of problem behaviour (Garmezy, 1985;

Rutter, 1979, as cited in Pollard & Hawkins, 1999). Protective factors do not merely "mirror" risk factors; however, the difference between risk and protective factors is not well-researched. Newcomb and Felix-Ortiz (1992) defined *vulnerability* as the presence of risk and the absence of protective factors.

Risk and protective factors are commonly presented in five domains: individual, peer, family, school and community. The following discussion of risk and protective factors in the five domains is abstracted from an overview of risk and protective factors for alcohol, other drugs and gambling problems (see George, Dyer & Levin, 2003).

- The **individual domain** includes risks such as "constitutional" factors related to brain structure and functioning, temperamental factors including early aggressive behaviour, early initiation to substance use, past trauma or abuse, lack of commitment to social values and norms, and the lack of self-concept. Protective factors include strong personal social skills, high social and academic expectations and resiliency.
- The **family domain** includes risks such as living arrangement, attachment to family, poor parental supervision and monitoring, family communication and rule-setting, family conflict, favourable parental attitudes toward substance and gambling use, and parental addiction problems. Protective factors include close mutual parent-child relationships, parental monitoring and supervision, emotional support and parents who present clear pro-social expectations.
- The **peer domain** includes risks such as peer drug use and delinquent peers, peer pressure and favourable peer attitudes toward use. The main peer protective factor reported in the literature is having close friends who do not use substances.
- The **school domain** includes risks such as academic failure and lack of commitment to school. Protective factors include participation in extra-curricular activities, commitment to school, positive teacher-student relationships, strong social network support, and clear communication of high expectations for student achievement.
- The **community domain** includes risks such as community/ neighbourhood disorganization, availability of substances and community norms and laws that favour drug use and gambling. Protective factors include community-sponsored activities, religious based involvement and strong neighbourhood social networks.

A selected number of risk and protective factors were chosen for *The Alberta Youth Experience Survey 2002* (see Sections 9 and 10).

Since the conceptual framework is the first step toward forecasting future possibilities, it is important that we treat the results cautiously. Some risk and protective factors have been shown to be predictive – they predict increased or decreased odds of future problems. The distinction between correlation and cause is important. Most factors are *correlates* of problems (or the absence of problems) but have not been conclusively shown to predict future problems (or their absence). Factors that correlate with current or later problems form the pool from which we are most likely to find the vital few factors that cause problems to occur or cause adolescents to grow up healthy and well-adjusted. Where this study finds correlates, it finds *possibilities for action* – it does not find *necessities for action*. Multiple regression results can help us to focus on the most important risk and protective factors related to the use and abuse of alcohol, tobacco, other drugs and gambling behaviour.

2. METHOD

2.1 Questionnaire

The questionnaire was comprised of 84 questions. There were no open-ended questions. One version of the questionnaire was used for all six grades. A French version was available if requested by the principal. The questionnaire was based on comparable studies conducted in other provinces and states. Students were asked to report their experiences with alcohol, tobacco, other drugs and gambling. Developed scales were utilized such as:

- Alcohol Use Disorders Identification Test,
- Indicators of Cannabis Dependence Scale,
- South Oaks Gambling Screen - Revised for Adolescents, and
- Social Skills Scale.

Refer to Section 3 and Appendix A for a detailed discussion of these scales. Information was also requested on demographics, potential risks and protective factors.

Students recorded their responses directly on the computer-scannable questionnaire. The questionnaire took 30 to 40 minutes to complete.

2.2 Pre-test

In order to implement the survey in the fall of 2002, a pre-test of the survey instrument had to occur before the end of the 2001/02 school year. A pre-test was arranged with a school with students in grades 7 through 12. The pre-test focused on the delivery process and the questionnaire design (complexity, length, understandability, flow, etc.). The pre-test instrument was prepared in scan-readable format. In total, nine classrooms representing grades 7 through 12 participated in the pre-test. One class was a French immersion class. A total of 138 students participated.

Following the completion of the survey, the consultants discussed the survey with the students. The feedback from the students was used to design the final survey instrument. In addition, the completed surveys were analyzed using SPSS to determine any inconsistencies or issues pertaining to the manner in which they were completed.

2.3 Ethics Approval

Ethics approval was granted by the Community Research Ethics Board of Alberta. Specific conditions for approval included:

- handing out a placebo survey for students who did not have parental consent,
- distributing the placebo survey and the actual survey in a way that ensured students were not singled out,
- requiring students to insert completed surveys or placebo surveys into envelopes and seal them before handing them in, and
- destroying the placebo survey.

The placebo, designed to look identical to the actual survey, was a quiz pertaining to alcohol, tobacco, other drugs and gambling behaviour. The length was comparable to the survey so that students would finish at approximately the same time. Students placed their completed placebos in an identical envelope except for a small dot on one corner. The dot enabled the researcher to destroy the placebo without the need to open it.

2.4 Advisory Committee

The purpose of the committee was to advise AADAC on ways to ensure that the initial survey was useful to stakeholders, to anticipate potential problems and suggest solutions, and to serve as a sounding board for project plans. Membership included the Alberta School Boards Association, the College of Alberta School Superintendents, Alberta Learning as well as other Alberta Government Ministries (Alberta Aboriginal and Northern Affairs, Children's Services, Gaming, Government Services, Health and Wellness, and the Solicitor General). As well, two interested members of the public with experience working in the school system were recruited for the committee. The members' role was to provide advice and input on the survey design, implementation and presentation of results and also to recommend communication strategies to AADAC. Representatives from Ministries were involved to provide advice from the perspective of their particular Ministries.

2.5 Confidentiality/Privacy

The survey was conducted in compliance with the Freedom of Information Protection and Privacy Act. The following steps were taken to ensure the confidentiality/privacy of students, parents and schools.

2.5.1 Students

The research team did not have access at any time to the names of students participating in the study. Consent forms collected by the schools and class lists, indicating consent, were maintained by the teachers and the principal or school contact.

Students were instructed not to write their name or any other identifying information anywhere on the booklet or envelope. They were asked to place the completed survey in the envelope provided and seal it before handing it in to the research assistant.

2.5.2 Parents

The research team did not have access to the names and addresses of parents. These lists remained confidential to the school.

2.5.3 Schools

The list of participating schools was not made public. The survey contained no means of identifying the school or community. All results are reported on an aggregate basis only.

2.6 Sampling Methodology

The Alberta Youth Experience Survey 2002 was a province-wide survey of students in the "publicly elected" school system in grades 7, 8, 9, 10, 11 and 12. The sample frame was based on 2001/2002 school enrolment data. Of the 1,266 schools in Alberta having students in one or more of the target grades, 224 private, federal and provincial schools were excluded from the sample. Of the 285,535 students registered in grades 7 though 12 in Alberta for 2001/2002, 268,201 students (94%) were included in the target population of publicly elected schools.

The primary sampling units were the school and the classroom. The stratification was according to five regions and six grades resulting in 30 strata. Regions of Alberta are defined as South (within Regional Health Authority boundaries for RHAs 1, 2, 3, and 5), Calgary (within the Calgary Regional Health Authority boundaries), Central (within Regional Health Authority boundaries for RHAs 6, 7, 8 and 9), Edmonton (within the Capital Regional Health Authority boundaries) and North (within Regional Health Authority boundaries for RHAs 11, 12, 13, 14, 15, 16 and 17). It should be noted that Regional Health Authority boundaries refer to those used prior to April 1, 2003.

Table 1:
Number of schools by region

	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Total Schools
AADAC Region							
North	193	195	175	113	110	104	230
Edmonton	128	131	133	74	74	74	178
Central	177	181	160	117	107	111	232
Calgary	112	112	113	55	53	51	152
South	204	206	176	94	86	84	250
Total	814	825	757	451	427	424	1,042

Note: Total schools refer to the total number of schools with any of grades 7-12 in the region.

Table 2:
Number of students by region

	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Total Students
AADAC Region							
North	6,339	6,393	6,518	7,043	6,537	7,022	39,852
Edmonton	11,425	11,246	11,601	12,290	11,907	16,029	74,498
Central	6,651	6,630	6,807	6,967	6,786	7,396	41,237
Calgary	12,240	12,091	12,118	12,874	13,050	16,725	79,098
South	5,505	5,450	5,608	5,608	5,548	5,797	33,516
Total	42,160	41,810	42,652	44,782	43,828	52,969	268,201

2.6.1 Allocation of Surveys Among Schools

Surveys were allocated according to the following procedure:

1. Schools were chosen regardless of whether or not they were in the Public system or Catholic system.

2. Schools were selected from each of the 30 grade-region strata by simple random sampling.

    a. The probability of selecting a school was proportional to the size of its enrolment. (Refer to Table 3 for the number of schools by region and enrolment size and Table 4 for the number of students by region and enrolment size.)
    b. A minimum of 2 schools per strata were selected.

3. The provincial survey sample was designed to collect data from a:

    a. sample of 4,039 usable student surveys, after making allowance for non-usable/rejected surveys, and
    b. minimum sample of 673 usable student surveys from each grade, after making allowance for non-usable/rejected surveys.

4. A total of 103 schools were randomly selected to participate in the study.

Table 3:
Number of schools by region and enrolment size

	1 to 29 students	30 to 129 students	130 to 329 students	330 students and over	Number of Schools
AADAC Region					
North	50	86	61	33	230
Edmonton	9	36	56	77	178
Central	70	62	65	35	232
Calgary	8	20	43	81	152
South	120	58	37	35	250
Total	257	262	262	261	1,042

Table 4:
Number of students by region and enrolment size

	1 to 29 students	30 to 129 students	130 to 329 students	330 students and over	Number of Schools
AADAC Region					
North	673	5,826	12,877	20,476	39,852
Edmonton	128	2,806	12,137	59,427	74,498
Central	804	4,297	13,331	22,805	41,237
Calgary	91	1,445	9,470	68,092	79,098
South	970	4,181	7,846	20,519	33,516
Total	2,666	18,555	55,661	191,319	268,201

2.7 School Authority and School Approval Process

The 103 selected schools were represented by 41 school authorities. In some School Boards, school boards retain the authority to approve research and in some boards this authority is delegated to superintendents. School board chairs and/or superintendents from each of the authorities were provided with detailed information about the project and a list of the selected schools within their authority. The chairs or superintendents were asked for permission to contact the principals and invite their schools to participate in the study.

Thirty-nine of the 41 authorities granted their permission. Two authorities did not provide approval and as a result four schools were dropped from the original sample. Two participating authorities outlined specific conditions that had to be met before they would allow the research team to contact the principals (e.g., stationery for the parent letter, adding phrases to the letter, process of selecting classes). These conditions were met prior to proceeding.

Once approval was obtained from the school authorities, principals from the 99 schools were sent a letter inviting their schools to participate and an information package outlining the details of the study and the process of implementing the survey. Two weeks later, follow-up calls were made to request the schools' participation.

2.8 Participating Schools

Ninety-one of the 99 principals provided their approval to administer the survey in their schools. Eight principals did not provide approval for administering the survey. These schools were dropped from the sample. The decision not to participate was based on the following reasons:

- three schools expressed that they could not take time away from the curriculum to administer the survey,
- three principals simply said "no",
- one school was undergoing renovations, and
- one principal would not agree to active consent.

It should be noted that this survey followed a controversial survey administered in part of the province. This event may have influenced school participation rates.

2.9 Selection of Classes

The survey was administered to one class per grade that existed in the school. For schools with multiple classes per grade, one class was randomly selected to participate in the study. The principal or school contact person was responsible for making the selection. The research manager stressed the importance of using a random process. Classes were selected which represented a combination of core and elective courses.

In schools where there was only one class per grade, all of the students in the grade were surveyed. There were several rural schools with classes comprised of multiple grades (i.e., split classes). All of the students in these classes were surveyed.

2.10 Obtaining Active Parental Consent

Two types of consent have been described in the literature: active consent and passive consent. Active consent requires parents to sign a consent form if they agree to have their child participate in the study. Only those students with written parental consent are able to participate. Passive consent, on the other hand, requires parents to sign a denial of permission form if they do not wish to have their child participate in the study. It should be noted that there are variations in procedures for each method (e.g., active telephone consent, failure to return the consent form indicates passive consent).

While other studies of a similar nature have used passive parental consent, the ethical review board required active written parental consent, whereby parents sign a consent form and return it to the school.

An information letter and a consent form were sent home to the parents of students in the selected classes (see Appendix B and C). Parents were asked to sign the consent form and return it to the school as soon as possible. Parents were informed that students who did not have active parental consent would complete a placebo survey and they were provided with information about the content of the placebo.

Two school authorities required that the letter be printed on AADAC stationery and signed by the AADAC CEO. The other school authorities indicated a preference to have the parent letter printed on school stationery and signed by the principal. The consent form and information sheet were printed on AADAC stationery for all schools.

Two methods were used to send the information home to the parents and return the consent form to the school:

- the mailout approach – schools mailed the information to the parents with a stamped, labelled reply envelope, and
- the backpack approach – students were responsible for taking the information home and returning the consent form to the school.

The name and address list of students and parents was confidential to the school. Fifty-two percent of the schools used the backpack approach and 48% used the mailout approach.

2.11 Response Rate for Parental Consent

Two of the 91 schools had extremely low response rates and did not participate in the study. The response rate for the remaining 89 schools was 52%. This rate was based on the number of students who completed the survey in relation to the number of students enrolled in the class. Absenteeism data were not recorded.

Research shows that substantially lower response rates are to be expected when active rather than passive consent is required. The response rate obtained for this study is consistent with response rates obtained by other researchers who have used active consent, especially when telephone follow-up is not conducted (see Ellickson & Hawes, 1989; Esbensen, Deschenes, Vogel, West, Arboit, & Harris, 1996; Kearney, Hopkins, Mauss, & Weisheit, 1983; Lueptow, Mueller, Hammes, & Master, 1977; Severson & Ary, 1983; Skager & Austin, 2002).

2.12 Data Collection Procedure

The survey was administered in the schools during October and November 2002. Seven field staff researchers were hired to administer the survey throughout the province. The field staff researchers were responsible for confirming the survey date and time, meeting with the contact person on the day of the survey, and administering the survey and placebo to the selected classes.

The teacher had a class list which indicated returned consent forms. The researcher assisted the classroom teacher with handing out the surveys and placebos. They were distributed in a manner that did not single out any students (i.e., they did not call out students' names).

The researcher provided the students with detailed instructions for completing the surveys. Students were also informed that even though parental consent was obtained, their participation was entirely voluntary and they were free to withdraw their participation at any time. None of the students refused to participate.

The teacher and researcher remained in the room while the students completed the surveys and placebos. In order to create a nonthreatening atmosphere, researchers and teachers were instructed not to walk up and down the rows or stand and monitor the class.

Upon administering the surveys to all classes, the researcher left the placebos with the principal to be destroyed. The completed surveys were sent to the research office to be scanned.

2.13 Limitations

The Alberta Youth Experience Survey 2002 provides a wealth of information related to use and abuse as well as risk and protective factors associated with adolescent alcohol, tobacco and other drug use as well as gambling participation within the province of Alberta. As the survey is based on a statistical sample, there are limitations associated with the results which should be noted.

2.13.1 Excluded Schools

One limitation of the study is its exclusion of adolescents attending private schools, federal schools and provincial schools. These schools were excluded for the following reasons:

- there were smaller numbers of students,
- the approval process would be extensive and substantially more complicated, and
- the Learning Ministry requested that AADAC initiate the survey in the Public and Separate systems prior to approaching other jurisdictions.

Based on the 2001/02 enrolment data, there were 18,197 students (6%) registered in schools not included in the sample. In addition to the exclusion of these adolescents are those who do not attend any schools at all (e.g., home schooled, early school leavers).

Several schools selected in the original sample were turned down by the school authority because they were considered "special setting" schools and were deemed by the authority to be inappropriate. These included two hospital schools and a school for children with behavioural problems. Several outreach schools were included; however, the response rate was very low.

2.13.2 Active Consent

The requirement to obtain active consent had a significant impact on response rate. *The Alberta Youth Experience Survey 2002* obtained an overall response rate of 52%. By comparison, the Nova Scotia Student Drug Use 2002 survey reported a response rate of 99.4%; however, all students were included in the study without formal parental consent. As mentioned earlier in this report, response rates are substantially lower when active rather than passive consent is required. The response rate obtained for *The Alberta Youth Experience Survey 2002* is consistent with response rates obtained by other researchers who have used active consent, especially when telephone follow-up is not conducted (see Ellickson & Hawes, 1989; Esbensen et al., 1996; Kearney et al., 1983; Lueptow et al., 1977; Severson & Ary, 1983; Skager & Austin, 2002). Most research on the effects of response bias contrast active and passive consent samples; this approach highlights the differences between respondents and non-respondents in active consent samples but may over-estimate the effect that lower response rates have on estimates of population parameters like prevalence of ATODG. Dent, Sussman and Stacy (1997) directly addressed this question and found that, while there was a bias toward reduced reporting of cigarette, alcohol, cannabis and drug use, the size of the bias was quite small.

2.13.3 Self Reported Data

The questionnaire is based upon self-reported data. Even though quality control measures were used to remove questions that were obviously invalid (i.e., those reporting use of a fictitious drug), there still remains the possibility of respondents under or over reporting undesirable behaviour.

2.13.4 Language

Using a self completed survey instrument also assumes a sufficient understanding of English or French languages to be able to correctly interpret the questions. Students whose first language was not English or French, those with reading difficulties and some younger children may have experienced difficulty with the questions. Students with special needs were included at the discretion of the principal and the student's parents. A few special needs students completed the survey. Some did so on their own while others were assisted by an aid.

It should be noted that only 0.9 % of respondents indicated they found the survey "Not at all easy to understand" (see question 82).

2.13.5 Weighted Data

Weighted data have been used throughout the report. Using a multi-stage stratified sample design requires weights to adjust the sample proportions to reflect the sub-population values in their true proportions. The underlying assumption in using weighted data is that the sample is representative of the respective strata. Correction factors were not used.

Implications of using weighted data are 1) if the sample is not representative of the strata, applying a weight factor will exaggerate the bias and 2) using weighted data will increase the level of significance. Since our sample size and significance values were so large, the direction of differences would not change nor the order of the significant variables, likely only the magnitude of the differences would change (from 0.0001 to 0.01). It should be noted that, when conducting tests of significance between groups the same results were obtained with weighted and unweighted data.

3. DATA ANALYSIS

3.1 Data Processing

A total of 3440 completed surveys were returned to the research office. Exclusion criteria were used to enhance data quality. Surveys were excluded from the final analysis if students:

- did not provide a valid age,
- reported the use of a fictitious drug,
- reported using three or more drugs 40 or more times during the past year, and
- had missing values for all drug items.

These criteria are the same as those used by the Ontario Student Drug Use Survey (hereafter referred to as OSDUS) (see Adlaf & Paglia, 2001) which also excluded cases if students did not provide a valid gender.

Forty-six cases were dropped because they met one or more of these criteria. A total of 3394 cases were used for the final analysis.

3.2 Quality Control Measures and Internal/External Checks

The following measures were established to ensure quality control when administering the survey and scanning the data:

- Field staff researchers were provided detailed instructions and were monitored to ensure that the same procedure was utilized in each classroom.

- Surveys collected from each school were kept in individual envelopes prior to and following scanning to ensure that classes did not get mixed with other schools.

- Surveys were scanned in batches by school.

- Binary codes were used as identification marks for each survey page. This enabled individual surveys to be scanned in their entirety rather than sorting and scanning all surveys one page at a time.

There were also several checks which occurred within the instrument to ensure data were valid:

- There were frequently two or more questions which asked the same question but from a different perspective, for instance "In the last 12 months, how often did you use cannabis?" Another question was asked which was similar, "How often have you used cannabis?" There were similar questions for tobacco smoking. The correlations for both of these internal checks were over .95 indicating a high level of internal consistency.

- A further check was completed comparing the present grade level of individuals and the grade that they first tried smoking, drinking or using cannabis. The results showed that respondents did not pick a grade level for first use higher than their current grade.

- External data checks were made with other similar studies, the results from this study and others were comparable.

3.3 Data Weighting

The selection of schools was conducted so that all schools within the same explicit stratum would be selected with the same probability. Sampling weights for schools and students were computed as the inverse of their sample selection probabilities.

The sample was drawn from 120 strata consisting of six grades, five regions and four school sizes. Nineteen of the 120 strata did not contain any cases from the sample. Since no records were contained in these strata, weights could not be applied. The weighted population was therefore reduced accordingly from 268,201 to 263,511. Thirteen strata were within the smallest school size (1-29 students) where the selected schools did not have a sufficient number of students in the higher grades to ensure confidentiality of the respondent. The remaining empty strata were in Edmonton where several schools chose not to participate at a point where they could not be replaced due to the lengthy approval process. This is discussed further in the recommendations section of the report.

3.4 Analyses Performed

Crosstabulations, Chi-square tests, correlation analysis, cumulative effects and multiple regression analysis were performed on the weighted data. The accuracy was ±1% with a confidence of 95%.

3.4.1 Crosstabulations

Tables 7 to 14 provide crosstabulation results for each of the demographic characteristics. Tables 15 to 52 present crosstabulation results for alcohol, tobacco and other drug use and gambling participation by the following six variables: location size, region, age, grade, gender and ethnicity. These results are reported as subtables rather than six separate tables. Percentages of all students are reported unless subpopulations are noted. It should be noted that due to the brevity of space, means and standard error were also presented (for scales only) in these tables.

3.4.2 Chi-Square Tests

For Tables 15 to 52, six separate chi-square tests were performed to determine statistical significance - one for each subtable analysis. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted. The purpose of running chi-square tests is to determine if there are significant differences in the number of people in any particular category (frequencies). The chi-square test assumes that the categorical data are independent and this is how the expected frequencies are calculated. The actual frequencies are then compared with the expected frequencies. If there is a difference, then the data is deemed dependent rather than independent. Dependence is interpreted as a trend different from the random distribution of data. When using a chi-square, the total chi-square determines significance, but each cell contributes to this difference. When one cell contributes most of the chi-square value, it can be said that there is a trend that this cell was different from some of the others. This is how we can say grade 7 differed from grade 8, but we must state it as a trend. The reader should be cautioned not to interpret all possible comparisons (e.g., across subtables) as statistically different from each other.

3.4.3 Correlation Analysis

Correlations were run between frequency of use/participation measures and risk factors (see Tables 53 and 54) and protective factors (see Tables 55 and 56). Correlations were also run between abusive use/participation and risk factors (see Table 57) and protective factors (see Table 58). Pearson's correlation analysis was used for continuous variables and Spearman's correlation analysis was used for categorical variables. All reported correlations are significant at the 0.01 level or higher unless otherwise noted.

3.4.4 Cumulative Effects

Analyses were conducted to assess the cumulative effects of risk and protective factors on past year use of alcohol, tobacco, cannabis and magic mushrooms as well as playing cards for money, betting on sporting events with a friend and playing scratch tabs (see Figures 8 to 11). Risk factors were summed, protective factors were summed and the dependent variables mentioned above were recoded as users and nonusers. Crosstabulations were run for these dependent variables by risk factors and by protective factors. The crosstabulations identified the percentage of users by 0-19 risk factors and 0-8 protective factors. Cumulative effects of risk and protective factors were then calculated for each dependent variable and presented as graphs (see Figures 8 to 11).

3.4.5 Multiple Regression

Eight multiple regression equations were run. Hazardous and harmful alcohol use, indicators of cannabis dependence, gambling problems and tobacco use were run with all 19 risk factors and then all 8 protective factors. The regression analysis used was a forward stepwise regression.

3.5 Treatment of Missing Cases

Missing values were not included in the analyses unless otherwise noted.

3.6 Guidance on the Interpretation of Results

The reader should be cautioned not to interpret all possible comparisons (i.e., across subtables) in Tables 15 to 52 as statistically different from each other. Caution should also be used when interpreting small percentages. Results may be unreliable due to small cell sizes.

It should be noted that the terms youth, young people, students and adolescents are used interchangeably.

3.7 Scale Construction

Several pre-existing scales were used to measure the dependent and independent variables. Other scales were constructed for the purpose of this study. Table 5 provides a summary of all of the scales used. Refer to Appendix A for a more detailed description of the response categories, score computations and ranges. It should be noted that individual questions rather than scales were used to measure:

- age (question 1),
- grade at first start (questions 10, 24, 33 & 50),
- ease of access (question 60a, c & d),
- family discord (question 65),
- family history of substance abuse (question 70),
- smoking in the family (question 71), and
- school marks (question 74).

These are not included in Table 5 or Appendix A. Refer to the questionnaire to review each question.

Table 5:
Names, descriptions and questionnaire items for scales used to measure abusive substance use, gambling problems, risk and protective factors

	Questionnaire Items
Dependent Variables	
• **Alcohol Use Disorders Identification Test (AUDIT).** This scale assesses hazardous or harmful drinking.	32, 34, 35, 36, 38, 39, 40, 41, 43, 44
• **Tobacco Use.** This scale describes frequency of cigarette smoking over the last 12 months.	23
• **Indicators of Cannabis Dependence.** This scale measures indicators of cannabis dependence for cannabis users.	52. 54, 55
• **South Oaks Gambling Screen – Revised for Adolescents (SOGS-RA).** This scale measures problem gambling for students who reported gambling behaviour. The "broad definition" of gambling problems was used (see Appendix A). A four level system of gambling problem severity was constructed based on SOGS-RA scores and frequency of gambling behaviour to identify low to high levels of severity.	9, 11 – 22
Risk Factors	
• **Peer risk behaviour.** This scale measures students' perceptions of their friends' behaviour related to substance use, gambling behaviour and breaking the law.	72a – g
• **Mother support.** This scale measures students' perceptions of the nature and closeness of their relationship with their mother.	61, 62
• **Father support.** This scale measures students' perceptions of the nature and closeness of their relationship with their father.	63, 64
• **Parent approval.** This scale measures students' perceptions of the extent to which their parents' approve or disapprove of their smoking tobacco, drinking alcohol and using drugs.	67
• **School disconnection.** This scale measures students' perceived level of disconnection with school.	75b, d, f & g
• **Early signs of leaving.** This scale measures the frequency of three indicators of early school leaving (e.g., missed school because "skipped").	76
• **Neighbourhood disorganization.** This scale measures students' perceptions of neighbourhood disorganization (e.g., litter, drinking in public, burglary, social unrest).	80
Protective Factors	
• **Social skills.** This scale measures the extent to which students displayed social skills (e.g., being able to say "no" to friends).	56 – 59
• **Participation in pro-social activities.** This scale measures students participation in four pro-social activities (e.g., Scouts, sports, church groups).	79a – d
• **Peer influences.** This scale measures students' perceptions of the influence of peers on their behaviour.	73
• **Parental monitoring.** This scale measures perceived levels of parental monitoring related to where the student is after school and at night.	66

Table 5 (continued)

	Questionnaire Items
Protective Factors	
- **School connection.** This scale measures students' perceived level of connection with school.	75a, c, e
- **Positive adults in the neighbourhood.** This scale measures perceived level of pro-social attitudes and behaviours promoted by adult neighbours.	77
- **Availability of pro-social clubs.** This scale measures students' perceptions about the availability of six pro-social activities (e.g., Scouts, sports, 4H Club).	78

4. DEMOGRAPHICS

Students were asked to provide the following demographic information:

- age,
- gender,
- grade,
- living arrangement,
- ethnicity,
- spending money,
- source of spending money,
- number of siblings,
- region, and
- location size.

Table 6 provides frequencies for each of the demographic characteristics. The number of respondents and the corresponding percentages are presented. Note that all data is weighted for this and all subsequent analyses.

Tables 7 through 14 provide crosstabulation results for all demographic characteristics except source of spending money. It should be noted that each crosstabulation includes fewer variables so that results are not duplicated.

The aggregated codes for location size listed below are based on Beale codes adapted for Canadian non metropolitan policy analysis (see Ehrensaft & Beeman, 1992).

Descriptions of the five location sizes are as follows:

- Mid size metro refers to medium metropolitan (population of 250,000 – 999,999). In Alberta, this includes cities like Calgary and Edmonton.

- Small size metro refers to smaller metropolitan (population of 50,000 – 249,999). In Alberta, this includes cities like Red Deer and Medicine Hat.

- Non metro refers to small non metro city zone (population of 20,000 – 49,999). In Alberta, this includes cities like Fort McMurray and Grande Prairie.

- Small town refers to small town zone (population of 2,500 – 19,999).

- Rural refers to predominantly rural and non metro rural (population less than 2,500).

The following changes related to demographic variables should be noted. First, ten age categories are reported in Tables 6 through 14. These categories were collapsed for further analyses. In Sections 5 - 8, age results are reported according to two categories: 1) under 18 years and 2) 18 years and over. Refer to Table 6 for the number of respondents in the two age categories.

Second, in Table 6 data for both Grade 12 (under 20 years) and Grade 12 (20 years and over) were reported. Due to the small percentage (.0002%) of students who reported being 20 years and over in Grade 12, the results for this grade category were not reported in subsequent tables.

Finally, while twelve response categories for ethnicity are reported in Table 6, these categories were collapsed for further analyses. Ethnicity results are reported according to two categories: 1) Aboriginal – includes Metis and First Nation and 2) Non Aboriginal – includes all other ethnicities.

Table 6:
Demographic characteristics of the sample (based on weighted N)

	%	N
Age		
11 years and under	1.7	4,531
12 years old	14.9	39,340
13 years old	16.4	43,231
14 years old	16.3	42,998
15 years old	16.2	42,802
16 years old	16.7	44,052
17 years old	15.7	41,329
18 years old	1.9	4,885
19 years old	0.1	293
20+ years old	0.0	50
Total	100.0	263,511
Gender		
Male	44.5	116,224
Female	55.5	144,954
Total	100.0	261,178
Grade		
Grade 7	16.0	42,152
Grade 8	15.9	41,810
Grade 9	16.2	42,652
Grade 10	16.5	43,444
Grade 11	16.1	42,553
Grade 12 (under 20 years)	19.3	50,839
Grade 12 (20 years and over)	0.0	61
Total	100.0	263,511
Living Arrangements		
Both natural parents	71.5	186,668
Natural father only	3.0	7,782
Natural mother only	12.5	32,763
One natural parent & one step-parent	10.1	26,427
Neither natural parents	2.9	7,465
Total	100.0	261,106

Note: Totals do not always add up to 263,511 due to missing cases.

Table 6 (continued)

	%	N
Ethnicity		
African	1.3	3,367
Australian	0.8	2,043
Eastern European	6.1	16,119
European	35.2	92,726
First Nation	3.1	8,135
Latin or South American	1.2	3,254
Metis	2.9	7,618
Scandinavian	5.8	15,279
South Asian	1.2	3,171
South East/East Asian	5.6	14,833
Other	31.2	82,173
Don't know	21.0	55,278
Total (respondents provided multiple responses)	n/a	n/a
Weekly spending money		
Less than $5	4.5	11,897
$6 to $10	7.3	19,222
$11 to $20	9.6	25,252
$21 to $30	3.4	8,942
$31 to $40	2.9	7,597
$41 to $50	1.9	5,028
More than $50	3.9	10,283
No set amount	66.3	173,531
Total	100.0	261,752
Source of spending money		
Allowance	37.9	99,790
Job	41.4	109,150
Other	30.4	80,194
Total (respondents provided multiple responses)	n/a	n/a

Note: Totals do not always add up to 263,511 due to missing cases.

Table 6 (continued)

	%	N
Number of siblings		
None	6.4	16,800
One	37.9	99,248
Two	26.4	69,264
Three	15.0	39,289
Four	6.0	15,674
Five	4.0	10,502
More than five	4.3	11,319
Total	100.0	262,096
Region		
North	15.1	39,770
Edmonton	26.7	70,327
Central	15.6	41,237
Calgary	29.9	78,733
South	12.7	33,444
Total	100.0	263,511
Location size		
Mid size metro	44.7	117,739
Small size metro	20.7	54,573
Non metro	1.3	3,363
Small town	12.3	32,477
Rural	21.0	55,359
Total	100.0	263,511

Note: Totals do not always add up to 263,511 due to missing cases.

Table 7:
Location size by region, grade, age, ethnicity, gender, living arrangement, weekly spending money and number of siblings (as percentages)*

	mid size metro	small metro	non-metro	small town	rural
Total	44.7	20.7	1.3	12.3	21.0
Region					
North	0.0	0.0	8.3	39.8	52.0
Edmonton	61.3	37.7	0.1	0.9	0.0
Central	0.0	45.5	0.0	24.0	30.5
Calgary	94.8	0.0	0.0	2.7	2.5
South	0.0	27.7	0.0	12.0	60.2
Grade					
Grade 7	38.3	25.0	0.9	12.7	23.2
Grade 8	35.1	28.6	0.7	11.6	24.0
Grade 9	42.3	22.9	0.1	9.4	25.4
Grade 10	44.6	19.3	2.6	14.1	19.4
Grade 11	51.8	12.9	1.7	15.5	18.2
Grade 12 (< 20 yrs old)	54.1	16.6	1.6	11.0	16.8
Age					
11 years of age or younger	50.9	22.1	2.3	3.9	20.8
12 years	38.3	26.3	0.7	12.0	22.6
13 years	36.9	28.1	0.5	11.5	23.0
14 years	43.9	21.2	0.3	10.7	23.8
15 years	44.8	18.7	2.9	13.4	20.2
16 years	51.0	15.8	1.4	15.2	16.7
17 years	54.3	12.5	1.7	11.9	19.6
18 years	29.0	37.5	1.3	8.6	23.6
19 years	0.0	0.0	0.0	78.5	21.5
20 years or older	0.0	0.0	0.0	0.0	100.0
Ethnicity					
Non Aboriginal	44.9	20.9	1.2	12.3	20.8
Aboriginal	36.2	15.8	4.7	14.5	28.8
Gender					
Male	40.7	21.6	1.4	12.9	23.5
Female	47.5	20.1	1.2	12.1	19.1

Table 7 (continued)

	mid size metro	small metro	non-metro	small town	rural
Living Arrangement					
Both natural Parents	41.5	21.7	1.2	13.0	22.7
Natural father only	65.2	6.1	0.4	10.7	17.6
Natural mother only	56.9	23.4	0.8	7.6	11.3
One natural parent & one step-parent	44.7	18.0	2.1	14.7	20.5
Neither natural parents	45.4	7.4	4.8	12.1	30.4
Spending Money					
$10 or less	41.1	24.6	0.5	8.9	24.9
$11 to $30	51.7	17.5	2.1	9.5	19.1
$31 or more	68.0	8.9	1.1	7.8	14.1
No set amount	40.9	22.2	1.3	14.0	21.7
Number of Siblings					
None	72.0	13.4	0.1	5.8	8.7
One	50.8	23.0	1.6	10.8	13.7
Two	38.2	21.1	0.8	15.7	24.2
Three	35.0	22.3	1.3	12.4	29.1
Four	31.5	19.0	1.2	18.3	29.9
Five or more	44.1	14.4	1.7	8.9	30.9

*Note: All students were asked to answer this question

Table 8:
Region by grade, age, ethnicity, gender, living arrangement, weekly spending money and number of siblings (as percentages)*

	North	Edmonton	Central	Calgary	South
Total	15.1	26.7	15.6	29.9	12.7
Grade					
Grade 7	15.0	27.1	15.8	29.0	13.1
Grade 8	15.3	26.9	15.9	28.9	13.0
Grade 9	15.3	27.2	16.0	28.4	13.1
Grade 10	16.1	25.8	16.0	29.3	12.8
Grade 11	15.3	25.1	15.9	30.6	13.0
Grade 12 (< 20 yrs old)	13.8	27.9	14.5	32.5	11.3
Age					
11 years of age or younger	8.0	27.5	10.4	37.1	17.0
12 years	15.5	27.8	15.5	29.5	11.6
13 years	14.2	29.5	15.8	28.1	12.3
14 years	14.4	24.9	17.1	29.9	13.6
15 years	17.7	22.6	15.0	32.2	12.5
16 years	13.9	26.1	15.9	31.1	12.9
17 years	14.6	25.7	15.4	31.3	13.0
18 years	22.7	58.0	9.8	0.0	9.5
19 years	43.0	0.0	57.0	0.0	0.0
20 years or older	30.0	0.0	0.0	0.0	70.0
Ethnicity					
Non Aboriginal	14.4	27.0	15.7	30.0	12.9
Aboriginal	37.2	16.5	13.5	25.2	7.6
Gender					
Male	15.7	22.5	17.9	29.6	14.4
Female	14.8	29.5	14.0	30.2	11.5
Living Arrangement					
Both natural Parents	15.2	24.4	16.2	30.4	13.9
Natural father only	15.5	29.0	11.6	38.3	5.6
Natural mother only	9.5	39.5	14.9	26.2	9.9
One natural parent & one step-parent	17.4	24.3	16.6	30.1	11.7
Neither of my natural parents	30.6	30.5	8.6	20.6	9.7

Table 8 (continued)

Spending Money	North	Edmonton	Central	Calgary	South
$10 or less	12.5	27.1	14.1	32.1	14.2
$11 to $30	15.8	36.6	10.1	27.1	10.4
$31 or more	9.0	13.9	13.2	57.1	6.9
No set amount	16.2	26.1	17.4	26.6	13.7
Number of Siblings					
None	4.6	29.6	10.6	50.5	4.7
One	11.8	25.5	15.2	38.7	8.8
Two	18.2	24.5	17.7	26.5	13.1
Three	16.9	32.4	16.1	17.4	17.3
Four	23.4	18.6	21.1	18.2	18.7
Five or more	17.8	32.2	10.0	17.1	22.9

Note: Refer to Table 7 for region by location size
*All students were asked to answer this question

Table 9:
Grade by age, ethnicity, gender, living arrangement, weekly spending money and number of siblings (as percentages)*

	grade 7	grade 8	grade 9	grade 10	grade 11	grade 12 (< 20 yrs old)
Total	16.0	15.9	16.2	16.5	16.1	19.2
Age						
11 years of age or younger	100.0	0.0	0.0	0.0	0.0	0.0
12 years	86.2	13.8	0.0	0.0	0.0	0.0
13 years	8.4	76.1	15.5	0.0	0.0	0.0
14 years	0.2	7.9	77.7	14.1	0.0	0.0
15 years	0.0	0.1	5.8	80.2	13.9	0.0
16 years	0.0	0.1	0.1	6.4	74.1	19.4
17 years	0.0	0.0	0.0	0.4	9.0	90.5
18 years	0.0	0.0	0.0	1.0	5.6	93.4
19 years	0.0	0.0	0.0	0.0	0.0	100.0
20 years or older	0.0	0.0	0.0	0.0	0.0	0.0
Ethnicity						
Non Aboriginal	15.9	16.0	16.1	16.8	15.9	19.3
Aboriginal	19.1	12.4	18.4	6.3	24.3	19.4
Gender						
Male	15.1	17.3	16.1	15.5	21.5	14.5
Female	17.0	14.9	16.5	16.9	11.8	22.9
Living Arrangement						
Both natural Parents	16.4	16.4	16.7	15.6	16.3	18.5
Natural father only	5.3	5.3	9.9	15.8	23.8	40.1
Natural mother only	16.3	15.9	18.1	19.8	14.1	15.8
One natural parent & one step-parent	15.7	15.9	13.1	17.1	12.3	25.8
Neither natural parents	15.0	16.1	13.9	14.3	24.1	16.6
Spending Money						
$10 or less	33.2	27.5	17.9	10.2	4.3	6.9
$11 to $30	12.8	15.8	18.8	18.8	13.4	20.5
$31 or more	7.7	7.2	8.9	15.9	30.0	30.3
No set amount	14.7	14.8	16.3	17.0	17.1	20.0

Table 9 (continued)

	grade 7	grade 8	grade 9	grade 10	grade 11	grade 12 (< 20 yrs old)
Number of Siblings						
None	12.4	10.1	19.9	17.4	30.0	10.3
One	15.7	16.7	16.3	16.5	17.8	17.0
Two	16.8	16.4	15.3	14.7	13.7	23.0
Three	17.7	14.8	17.0	20.5	13.6	16.3
Four	13.0	17.2	16.0	15.2	18.0	20.6
Five or more	16.8	16.3	13.3	14.8	8.8	29.9

Note: Refer to Table 7 for grade by location size and Table 8 for grade by region
*All students were asked to answer this question

Table 10:
Age by ethnicity, gender, living arrangement, weekly spending money and number of siblings (as percentages)*

	11 years or younger	12 years	13 years	14 years	15 years	16 years	17 years	18 years	19 years	20 years or older
Total	1.7	14.9	16.4	16.3	16.2	16.7	15.7	1.9	0.1	0.0
Ethnicity										
Non Aboriginal	1.7	14.9	16.4	16.4	16.5	16.3	15.8	1.8	0.1	0.0
Aboriginal	1.9	15.8	16.4	13.5	7.4	29.8	11.6	2.6	0.8	0.2
Gender										
Male	1.0	14.2	17.4	16.5	16.7	18.9	13.4	1.7	0.2	0.0
Female	2.3	15.7	15.8	16.4	15.5	15.0	17.2	2.0	0.0	0.0
Living Arrangement										
Both natural Parents	1.7	15.7	17.1	16.5	16.0	16.6	14.9	1.5	0.1	0.0
Natural father only	0.3	4.9	6.3	9.8	16.7	23.8	37.8	0.4	0.0	0.0
Natural mother only	0.3	15.6	17.6	19.8	17.8	14.3	13.8	0.7	0.0	0.0
One natural parent & one step-parent	3.0	12.6	14.7	14.4	15.5	16.3	20.0	3.4	0.0	0.1
Neither natural parents	0.7	16.1	14.0	11.9	11.2	23.3	10.9	10.9	0.9	0.0
Spending Money										
$10 or less	3.7	30.9	26.3	18.8	8.7	5.0	6.4	0.3	0.0	0.0
$11 to $30	1.6	11.4	16.5	20.4	13.5	17.7	16.4	2.5	0.0	0.0
$31 or more	0.4	6.7	8.7	11.5	15.3	28.2	27.5	1.5	0.3	0.0
No set amount	1.6	13.9	15.5	15.8	17.9	17.3	15.8	2.1	0.1	0.0
Number of Siblings										
None	1.9	10.7	11.3	20.9	20.9	23.2	11.0	0.1	0.0	0.0
One	1.4	16.3	16.4	15.2	18.6	19.3	11.6	1.2	0.2	0.0
Two	1.1	15.7	18.5	14.3	13.2	16.0	18.3	3.0	0.0	0.0
Three	3.7	13.5	15.3	20.5	16.6	13.7	14.1	2.5	0.0	0.0
Four	1.1	10.0	18.7	21.8	9.9	15.4	20.9	1.9	0.4	0.0
Five or more	2.0	16.0	14.4	12.2	15.6	8.5	29.4	1.4	0.3	0.2

Note: Refer to Table 7 for age by location size, Table 8 for age by region, Table 9 for age by grade
*All students were asked to answer this question

Table 11:
Ethnicity by gender, living arrangement, weekly spending money and number of siblings (as percentages)*

	Non Aboriginal	Aboriginal
Total	96.9	3.1
Gender		
Male	96.8	3.2
Female	96.9	3.1
Living Arrangement		
Both natural parents	97.3	2.7
My natural father only	97.8	2.2
My natural mother only	97.6	2.4
One natural parent and one step-parent	97.6	2.4
Neither of my natural parents	80.4	19.6
Spending Money		
$10 or less	97.1	2.9
$11 to $30	96.9	3.1
$31 or more	97.6	2.4
No set amount	96.8	3.2
Number of Siblings		
None	98.9	1.1
One	97.9	2.1
Two	96.5	3.5
Three	98.4	1.6
Four	95.3	4.7
Five or more	90.9	9.1

Note: Refer to Table 7 for ethnicity by location size, Table 8 for ethnicity by region, Table 9 for ethnicity by grade and Table 10 for ethnicity by age
*All students were asked to answer this question

Table 12:
Gender by living arrangement, weekly spending money and number of siblings (as percentages)*

	male	female
Total	44.5	55.5
Living Arrangements		
Both natural parents	46.1	53.9
My natural father only	62.1	37.9
My natural mother only	35.7	64.3
One natural parent and one step-parent	41.3	58.7
Neither of my natural parents	39.1	60.9
Spending Money		
$10 or less	45.2	54.8
$11 to $30	30.5	69.5
$31 or more	46.4	53.6
No set amount	46.6	53.4
Number of Siblings		
None	46.9	53.1
One	45.5	54.5
Two	44.4	55.6
Three	44.4	55.6
Four	45.5	54.5
Five or more	37.8	62.2

Note: Refer to Table 7 for gender by location size, Table 8 for gender by region, Table 9 for gender by grade, Table 10 for gender by age and Table 11 for gender by ethnicity

*All students were asked to answer this question

Table 13:
Living arrangement by weekly spending money and number of siblings (as percentages)*

	both natural parents	natural father only	natural mother only	one natural parent & one step-parent	neither natural parents
Total	71.5	3.0	12.5	10.1	2.9
Spending Money					
$10 or less	75.9	3.5	12.1	6.3	2.2
$11 to $30	63.3	0.8	17.7	13.0	5.2
$31 or more	75.8	4.5	8.1	7.6	3.9
No set amount	72.0	3.1	12.1	10.4	2.4
Number of Siblings					
None	67.1	0.6	26.3	3.7	2.3
One	80.3	1.9	9.6	6.9	1.3
Two	81.4	3.3	7.7	5.2	2.4
Three	63.1	1.5	19.5	12.3	3.7
Four	49.8	3.9	18.2	24.4	3.6
Five or more	33.1	10.7	15.0	31.3	9.9

Note: Refer to Table 7 for living arrangement by location size, Table 8 for living arrangement by region, Table 9 for living arrangement by grade, Table 10 for living arrangement by age, Table 11 for living arrangement by ethnicity and Table 12 for living arrangement by gender
*All students were asked to answer this question

Table 14:
Weekly spending money by number of siblings (as percentages)*

	$10 or less	$11 to $30	$31 or more	no set amount
Total	11.9	13.1	8.8	66.3
Number of Siblings				
None	5.6	11.7	15.2	67.5
One	10.7	10.9	11.6	66.8
Two	13.4	13.5	6.3	66.7
Three	12.2	16.1	4.8	67.0
Four	17.6	4.7	9.7	68.1
Five or more	12.5	22.8	5.4	59.2

Note: Refer to Table 7 for spending money by location size, Table 8 for spending money by region, Table 9 for spending money by grade, Table 10 for spending money by age, Table 11 for spending money by ethnicity, Table 12 for spending money by gender, Table 13 for spending money by living arrangement
*All students were asked to answer this question

5. ALCOHOL USE

In this section, the results for use, frequent use and abusive use of alcohol are presented. Demographic breakdowns by location size, region, age, grade, gender and ethnicity are provided. These results are reported as subtables rather than six separate tables. Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

5.1 Use and Frequent Use

Table 15 reports results for alcohol use during the last 12 months. All response categories are presented. This table can be used to identify nonusers vs. users as well as frequent users. Non drinkers refer to those students who indicated they "drank alcohol, but not in the last 12 months", "never drank alcohol" or "had a sip to see what it is like". Drinkers include those students who selected any other response.

5.2 Abuse of Alcohol

Table 16 reports the mean, standard error and percentage of students at risk of hazardous or harmful alcohol use in the last 12 months (as measured by the AUDIT). The cut-off for the AUDIT was 11 (see Appendix A). Means and standard error are presented as well as breakdowns by location size, region, age, grade, gender and ethnicity. Percentages are provided for those "not at-risk" (score less than 11) and those "at-risk" (score greater than or equal to 11).

Table 15:
Alcohol use in last 12 months (as percentages)*

	Never drank in lifetime	Had a sip	Not in last 12 months	Only special events	Once a month or less	2 - 3 times a month	Once a week	2 –3 times a week	4 - 5 times a week	6 - 7 times a week
Total	20.6	19.5	3.6	15.6	14.7	13.6	6.4	4.6	0.6	0.9
Location										
Mid metro	15.6	20.6	3.6	17.3	16.3	13.7	6.5	4.5	0.6	1.4
Small metro	28.5	17.2	3.1	13.0	11.7	13.1	7.5	4.8	0.7	0.3
Non metro	16.3	14.8	0.2	20.2	33.8	12.0	0.1	2.4	0.1	0.3
Small town	17.2	20.1	3.8	13.7	17.9	14.8	6.3	5.6	0.0	0.7
Rural	25.4	19.4	4.1	15.6	11.3	13.3	5.3	4.2	0.9	0.6
Region										
North	17.1	22.1	4.9	16.3	16.3	12.1	4.7	5.4	0.7	0.4
Edmonton	22.6	18.8	3.9	15.3	12.7	14.0	4.9	6.1	0.6	1.1
Central	16.2	18.2	3.4	15.4	15.7	16.8	7.8	4.9	1.0	0.7
Calgary	16.8	20.3	2.9	16.9	16.4	13.2	8.6	3.3	0.4	1.1
South	34.5	17.7	3.3	12.9	12.0	11.4	4.3	3.0	0.4	0.6
Age										
Under 18 Years	21.0	19.9	3.6	15.5	14.4	13.6	6.1	4.6	0.6	0.9
18 years and over	1.7	1.5	3.6	22.8	28.4	12.4	20.5	5.2	1.8	2.2
Grade										
Grade 7	45.0	34.7	2.7	11.5	3.0	1.5	1.1	0.5	0.0	0.0
Grade 8	28.6	30.5	3.6	17.1	9.0	8.5	2.5	0.2	0.0	0.0
Grade 9	19.9	24.8	2.9	22.3	12.6	8.8	5.3	1.7	1.3	0.4
Grade 10	13.0	13.8	2.5	14.7	22.2	19.7	6.2	6.7	0.7	0.6
Grade 11	11.1	10.3	5.3	14.9	22.6	16.8	6.7	8.9	0.9	2.6
Grade 12 (<20 yrs old)	8.6	5.8	4.4	13.7	18.1	24.0	14.6	8.7	0.6	1.6
Gender										
Male	17.2	19.0	4.1	17.2	13.6	13.8	6.8	5.9	0.6	1.9
Female	23.1	20.1	3.2	14.0	15.8	13.5	6.1	3.6	0.6	0.1
Ethnicity										
Non Aboriginal	20.8	19.5	3.6	15.7	14.7	13.5	6.2	4.6	0.5	0.9
Aboriginal	12.4	18.9	3.5	12.4	16.4	17.1	10.8	5.3	3.1	0.0

* Note: All students were asked to answer this question.

Table 16:
Mean, standard error and percentage of students at risk of hazardous and harmful alcohol use in the last 12 months (as percentages)*

	Mean	Standard Error	Percentage not at risk (score 0 – 10 on AUDIT)	Percentage at risk (score>10 on AUDIT)
Total	0.13	0.34	87.0	13.0
Location				
Mid size metro	0.15	0.35	85.2	14.8
Small size metro	0.12	0.32	88.3	11.7
Non-metro	0.10	0.30	90.2	9.8
Small town	0.13	0.33	87.5	12.5
Rural	0.11	0.31	89.2	10.8
Region				
North	0.11	0.32	88.8	11.2
Edmonton	0.14	0.35	85.7	14.3
Central	0.14	0.34	86.4	13.6
Calgary	0.14	0.35	86.1	13.9
South	0.09	0.29	90.5	9.5
Age				
Under 18 years	0.13	0.33	87.1	12.9
18 years and over	0.18	0.38	82.4	17.6
Grade				
Grade 7	0.00	0.07	99.5	0.5
Grade 8	0.05	0.22	94.8	5.2
Grade 9	0.08	0.27	92.4	7.6
Grade 10	0.13	0.33	87.3	12.7
Grade 11	0.24	0.43	76.1	23.9
Grade 12 (< 20 yrs old)	0.24	0.43	75.8	24.2
Gender				
Males	0.17	0.37	83.2	16.8
Females	0.10	0.30	89.9	10.1
Ethnicity				
Non Aboriginal	0.12	0.33	87.7	12.3
Aboriginal	0.35	0.48	65.5	34.5

*Note:All students were asked to answer this question

5.3 Summary of Major Findings

5.3.1 Alcohol Use

- 43.7% of students were non drinkers compared to 56.3% who had drunk alcohol in the last 12 months.

- A higher percentage of youth from small metro (48.8%) and rural (48.9%) locations were non drinkers compared to other locations.

- The Edmonton Region and South Region had the highest percentage of students who were non drinkers (45.3% and 55.5% respectively).

- The percentage of students who were non drinkers decreased by grade.
  - 82.4% of grade 7 students and 62.7% of grade 8 students were non drinkers.
  - 47.6% of grade 9 students were non drinkers.
  - There is a notable transition at grade 10, where 29.3% of student were non drinkers.
  - 26.7% of grade 11 students and 18.8% of grade 12 students were non drinkers.

- More females (46.4%) than males (40.3%) were non drinkers.

- A higher percentage of non Aboriginal students (43.9%) than Aboriginal students (34.8%) were non drinkers.

Note: Non drinkers refer to those students who indicated they "drank alcohol, but not in the last 12 months", "never drank alcohol" or "had a sip to see what it is like". Drinkers include those students who selected any other response (see question 32).

- Figures 1 and 2 illustrate frequency of use patterns by grades

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Figure 1:
Frequency of alcohol use for grades 7, 8 and 9

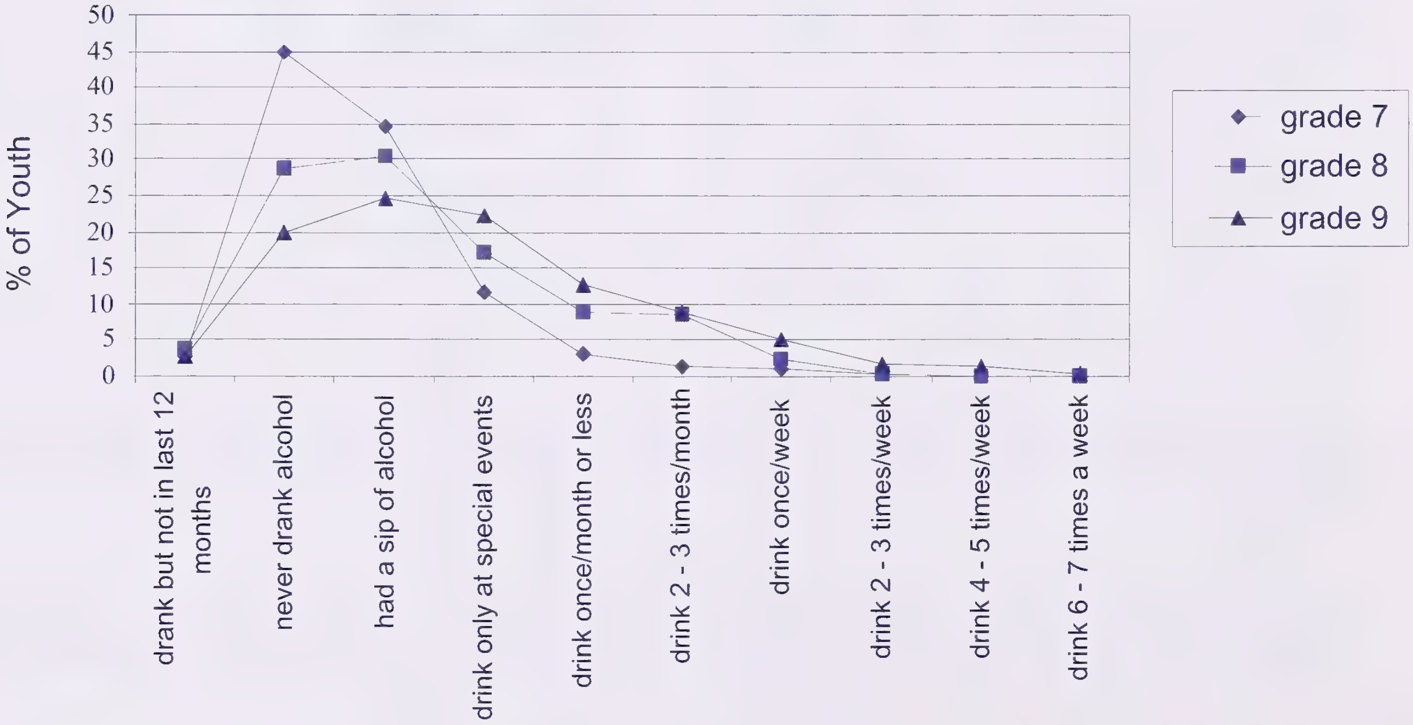
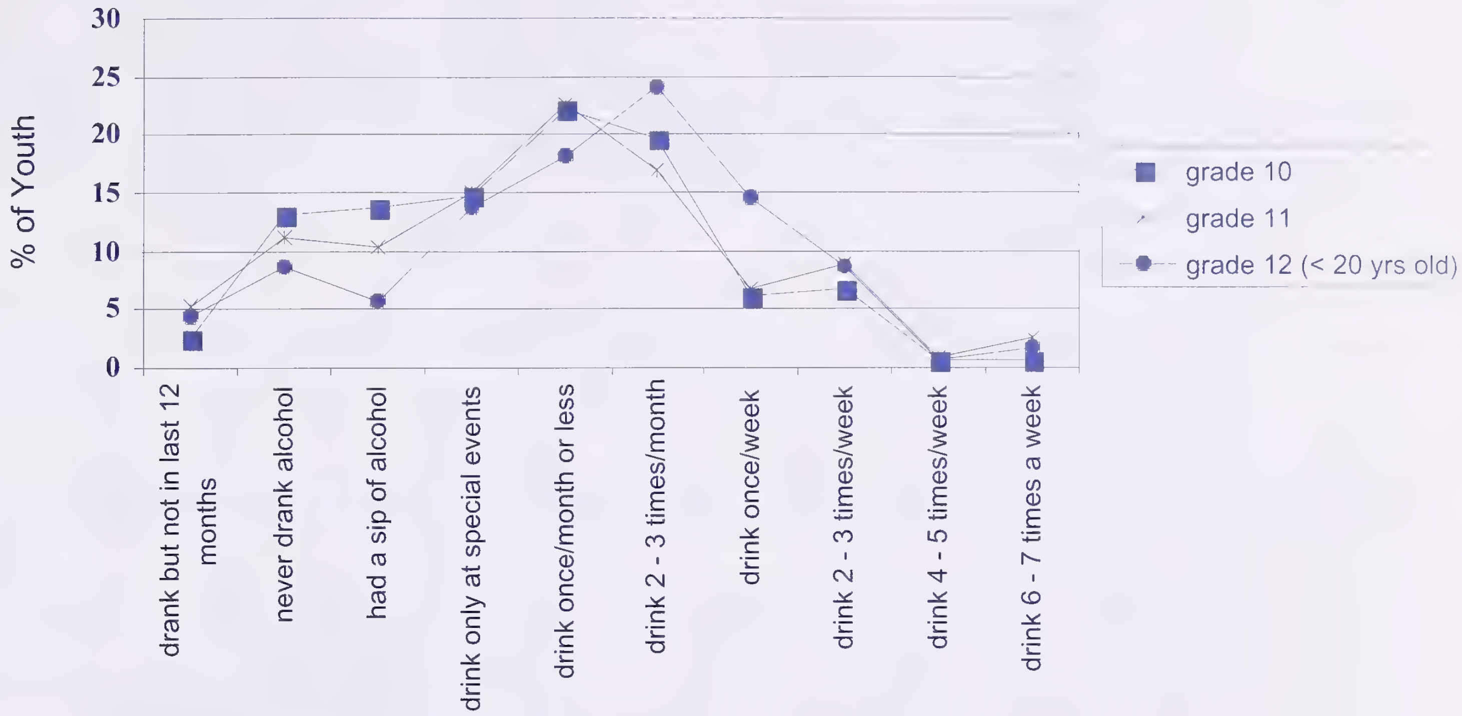


Figure 2:
Frequency of alcohol use for grades 10, 11 and 12



5.3.2 Signs of Alcohol Abuse

- 87% of all students surveyed did not report signs of abusing alcohol.
    - 52% scored 0 on the AUDIT. This group of students included those who drank alcohol, but not in the last 12 months; never drank alcohol in lifetime; and had a sip of alcohol to see what it was like as well as those who drank only at special events and scored 0 on all remaining questions in the AUDIT.
    - 35% scored 1-10 on the AUDIT. This group of students includes those who drank in the last 12 months (including those who drank at special events and scored 1 or more on the remaining questions in the AUDIT).
- 13% of all students surveyed reported signs of alcohol abuse.
- Youths in urban areas of greater than 500,000 population were more likely (14.8%) and youths in non metro areas were less likely (9.8%) to report signs of alcohol abuse.
- The percentage of youths who reported signs of abusing alcohol in Edmonton (14.3%), Calgary (13.9%) and Central regions (13.6%) was notably higher than youths from the South (9.5%) and the North regions (11.2%).
- Students in grades 11 and 12 were more likely to report signs of abusing alcohol (23.9% of grade 11 students and 24.2% of grade 12 students).
- A higher percentage of males than females (16.8% and 10.1% respectively) reported signs of abuse.
- A higher percentage of Aboriginals than non Aboriginals (34.5% and 12.3% respectively) reported signs of abuse.

6. TOBACCO USE

In this section, the results for use and frequent use of smoking and chewing tobacco are presented. It should be noted that there was no measure of tobacco abuse included in the survey. Demographic breakdowns by location size, region, age, grade, gender and ethnicity are provided. These results are reported as subtables rather than six separate tables. Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

6.1 Cigarette Use

Table 17 reports results for the number of cigarettes smoked per day during the last 12 months (question 23). This measure was used to indicate use and frequent use. All students were asked to respond to this question.

6.2 Frequent Cigarette Use

Two other measures were used to assess frequent use. Table 18 provides results for smoking behaviour during the past 30 days (question 25). Table 19 presents results for smoking frequency "at the present time" (question 26). It should be noted that only those respondents who had smoked during the last 12 months were asked to respond to these questions.

6.3 Chewing Tobacco or Snuff Use

Table 20 provides results for use of chewing tobacco or snuff in the last 12 months (question 47a). All students were asked to indicate whether or not they had used chewing tobacco or snuff in the past year and if so, the frequency of use.

Table 17:
Mean, standard error and number of cigarettes smoked per day during the last 12 months (as percentages)*

	Mean	SE	0	< 1	1-2	3-5	6-10	11-15	16-20	20+
Total	0.44	1.24	83.8	6.9	1.6	2.4	2.6	1.3	0.6	0.8
Location										
Mid metro	0.52	1.38	81.8	7.7	1.6	1.9	3.2	1.7	0.8	1.3
Small metro	0.29	0.93	87.9	5.4	0.8	3.7	1.2	0.4	0.5	0.2
Non metro	0.72	1.79	82.6	3.8	0.3	0.6	4.7	2.3	3.8	1.9
Small town	0.44	1.17	82.5	7.7	2.6	1.8	3.4	1.2	0.3	0.6
Rural	0.40	1.15	84.8	6.1	1.8	2.7	2.3	1.3	0.4	0.5
Region										
North	0.46	1.22	82.8	6.7	2.2	2.7	3.2	1.6	0.4	0.4
Edmonton	0.43	1.21	84.8	5.8	0.7	2.6	3.2	2.2	0.4	0.3
Central	0.53	1.32	80.0	8.7	1.8	3.0	3.5	1.5	0.6	0.9
Calgary	0.46	1.34	83.6	7.4	1.7	1.9	2.2	0.6	0.8	1.8
South	0.26	0.89	88.0	5.9	1.9	2.3	0.7	0.5	0.7	0.1
Age										
Under 18 years old	0.43	1.23	84.0	6.9	1.6	2.2	2.6	1.3	0.6	0.9
18 years and over	0.80	1.45	73.2	4.4	0.4	15.3	5.7	0.2	0.5	0.3
Grade										
Grade 7	0.05	0.46	98.2	0.6	0.0	0.8	0.1	0.1	0.0	0.2
Grade 8	0.17	0.82	94.1	2.2	0.8	1.0	0.4	0.7	0.8	0.1
Grade 9	0.28	0.85	86.3	7.1	1.6	3.3	1.3	0.1	0.1	0.3
Grade 10	0.55	1.33	76.7	11.3	4.9	2.2	1.0	1.9	0.4	1.6
Grade11	0.64	1.60	81.1	5.8	1.2	2.0	4.7	2.3	0.5	2.5
Grade 12 (<20 years old)	0.84	1.59	69.6	12.8	1.0	4.6	7.3	2.6	1.6	0.5
Gender										
Male	0.46	1.39	86.1	4.6	0.9	1.5	2.9	1.3	0.8	1.7
Female	0.42	1.10	81.8	8.7	2.1	3.2	2.3	1.3	0.4	0.2
Ethnicity										
Non Aboriginal	0.42	1.22	84.4	6.5	1.5	2.4	2.5	1.3	0.5	0.8
Aboriginal	0.92	1.63	63.4	18.4	2.3	4.4	6.9	0.7	2.6	1.2

*Note: All students were asked to answer this question.

Table 18:
Smoking behaviour during the last 30 days among students who smoked in the last 12 months (as percentages)*

	not at all	occasionally	every day
Total	54.9	24.2	20.8
Location			
Mid size metro	54.3	23.9	21.7
Small metro	60.4	24.8	14.8
Non-metro	44.3	10.3	45.4
Small town	51.1	25.7	23.1
Rural	54.3	24.4	21.3
Region			
North	50.3	22.9	26.7
Edmonton	60.7	18.6	20.7
Central	44.8	31.3	23.9
Calgary	55.2	25.1	19.7
South	60.6	27.8	11.6
Age			
Under 18 years	54.7	24.7	20.5
18 years and over	59.5	12.8	27.7
Grade			
Grade 7	90.6	6.8	2.7
Grade 8	76.9	13.6	9.5
Grade 9	53.6	26.8	19.6
Grade 10	55.6	30.4	14.0
Grade 11	39.3	28.3	32.4
Grade 12 (< 20 yrs old)	38.4	28.1	33.5
Gender			
Male	59.4	21.5	19.1
Female	50.6	26.8	22.6
Ethnicity			
Non Aboriginal	55.9	23.7	20.4
Aboriginal	37.8	33.9	28.3

* Note: Only those respondents who reported that they smoked in the last 12 months (see question 23) were asked to answer this question.

Table 19:
Smoking frequency at the present time among students who smoked in the last 12 months (as percentages)*

	not at all	occasionally	every day
Total	54.0	25.5	20.5
Location			
Mid size metro	53.6	24.9	21.5
Small metro	58.2	25.9	15.9
Non-metro	44.3	10.3	45.4
Small town	48.4	30.6	21.0
Rural	55.1	24.5	20.4
Region			
North	52.4	22.0	25.7
Edmonton	54.8	24.3	20.9
Central	45.3	31.8	22.9
Calgary	56.5	24.6	19.0
South	61.1	26.5	12.4
Age			
Under 18 years	53.8	26.1	20.0
18 years and over	58.3	11.2	30.5
Grade			
Grade 7	87.9	10.3	1.8
Grade 8	74.7	16.0	9.3
Grade 9	54.6	28.2	17.3
Grade 10	53.0	33.0	14.0
Grade 11	34.9	31.3	33.8
Grade 12 (< 20 yrs old)	41.0	25.8	33.2
Gender			
Male	58.7	21.5	19.8
Female	49.9	29.0	21.1
Ethnicity			
Non Aboriginal	55.2	25.0	19.8
Aboriginal	33.6	33.8	32.6

* Note: Only those respondents who reported that they smoked in the last 12 months (see question 23) were asked to answer this question.

Table 20:
Use of chewing tobacco or snuff in the last 12 months (as percentages)*

	not at all	1 - 2 times	3 - 5 times	6 - 9 times	10 - 20 times	21 times or more
Total	92.2	3.6	2.1	0.3	0.7	1.0
Location						
Mid size metro	93.6	3.5	2.6	0.0	0.1	0.2
Small metro	89.8	3.9	1.8	0.0	2.4	2.1
Non-metro	94.7	2.6	0.0	2.7	0.0	0.0
Small town	94.5	3.2	1.0	0.2	0.3	0.8
Rural	90.1	3.8	2.1	1.3	0.8	1.9
Region						
North	95.0	2.2	0.6	0.9	0.6	0.7
Edmonton	93.7	2.7	0.6	0.0	1.6	1.5
Central	87.4	6.2	3.5	0.4	0.9	1.6
Calgary	91.8	3.7	4.0	0.3	0.1	0.1
South	92.5	3.7	0.9	0.5	0.4	2.0
Age						
Under 18 years	92.2	3.6	2.1	0.3	0.7	1.0
18 years and over	91.8	1.5	1.7	1.8	0.1	3.1
Grade						
Grade 7	97.8	1.0	1.0	0.0	0.2	0.0
Grade 8	95.5	2.4	0.4	0.2	0.7	0.8
Grade 9	93.8	3.0	1.9	0.1	0.7	0.4
Grade 10	92.1	2.2	2.2	0.5	1.3	1.7
Grade 11	85.3	6.7	4.3	0.3	1.5	2.0
Grade 12 (< 20 yrs old)	89.6	5.8	2.6	0.7	0.2	1.2
Gender						
Male	85.4	6.3	4.1	0.6	1.5	2.1
Female	97.5	1.5	0.5	0.1	0.2	0.2
Ethnicity						
Non Aboriginal	93.0	3.2	1.8	0.3	0.7	1.0
Aboriginal	68.0	14.9	10.5	2.4	2.6	1.7

* Note: All students were asked to answer this question.

6.4 Summary of Major Findings

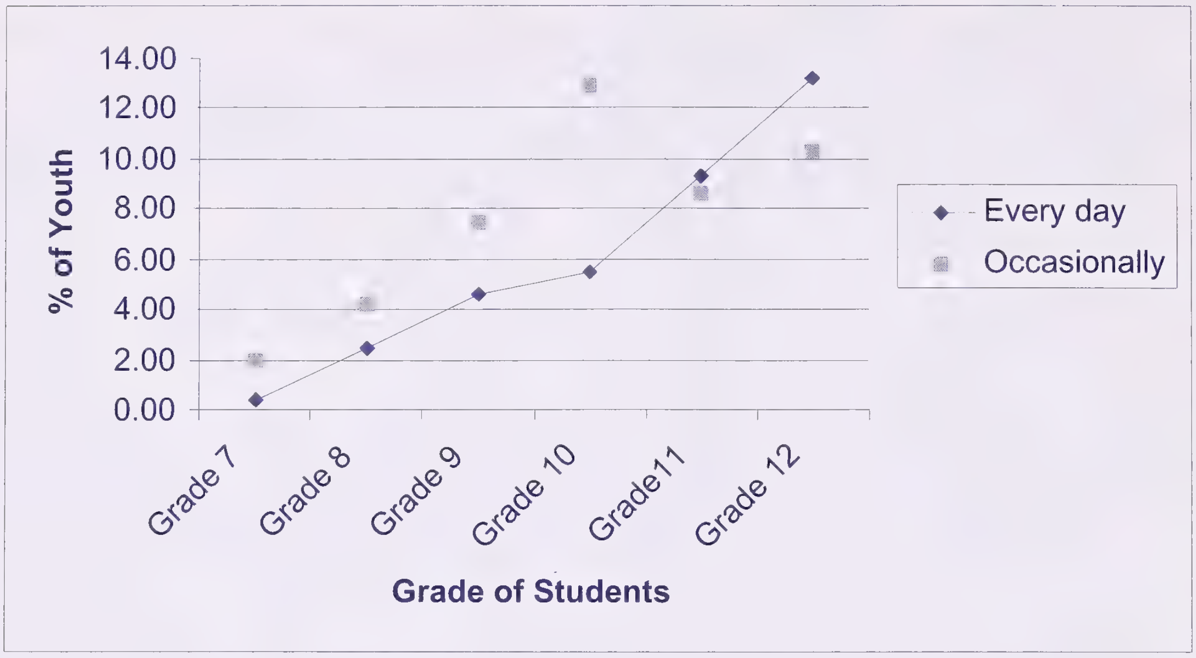
6.4.1 Cigarette Use

- 83.8% of Alberta youth had not smoked a cigarette in the last 12 months.
- Grade 7 and 8 students had the highest percentages of non-smokers. 98.2% of grade 7 students and 94.1% of grade 8 students reported not having smoked within the last 12 months.
- 69.6% of grade 12 students reported having not smoked in the last 12 months.
- An additional analysis by grade revealed that:
    - 84.9% of grade 7 students had "never tried smoking a cigarette" compared to 67.4% of grade 8 students.
    - 11.6% of grade 7 students had "tried smoking a cigarette but never smoked again" compared to 22.7% of grade 8 students.
    - 29.3% of grade 12 students had "never tried smoking a cigarette" compared to 49.% of grade 11 students, 46.5% of grade 10 students and 65.1% of grade 9 students.
- 84.4% of non-aboriginal youth and 63.4% of Aboriginal youth had not smoked within the last 12 months.
    - 56.6% of non Aboriginal youth and 37.4% of Aboriginal youth had never tried smoking a cigarette.

6.4.2 Frequency of Cigarette Use

- Figure 3 shows the frequency of smoking by grade among all students.
- Frequency of smoking everyday increased by grade. 13.3% of grade 12 students reported smoking cigarettes every day.
- Grade 10 students reported the highest occasional use (12.9%).

Figure 3:
Percentage of Alberta youth by grade who reported smoking a cigarette every day or occasionally



6.4.3 Use of Chewing Tobacco or Snuff

- ☐ 92.2% of students had not used chewing tobacco or snuff in the last 12 months.
- ☐ Youth in small town (5.5%) and non metro (5.3%) locations reported lower use than those in other locations.
- ☐ Youth in the Central region had the highest percentage of use (12.6%) and youth in the North reported the lowest use (5%)
- ☐ Grade 11 students reported the highest percentage of use of chewing tobacco or snuff (14.7%) followed by grade 12 students (10.4%) and grade 10 students (7.9%).
- ☐ 14.6% of Alberta male youth reported using chewing tobacco or snuff in the past 12 months, compared to 2.5% of female youth in the province.
- ☐ 32% of Aboriginal youth reported having used chewing tobacco or snuff, compared to 7% of non Aboriginal youth.

7. CANNABIS AND OTHER DRUGS

In this section, results are provided for use, frequent use and abuse of cannabis (marijuana or hash) as well as the use of ten other drugs. Demographic breakdowns by location size, region, age, grade, gender and ethnicity are provided. These results are reported as subtables rather than six separate tables. Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

7.1 Use of Cannabis

Table 21 provides results for cannabis use in the last 12 months. All students were asked to answer this question (see question 47b). Non users and users are identified as well as information about frequency of use.

7.2 Frequent Use of Cannabis

Table 22 provides results for cannabis use in the last four weeks. The results are presented by location size, region, age, grade, gender and ethnicity. It should be noted that only those respondents who had used cannabis 2-3 times or more in the last 12 months were asked this question.

7.3 Indicators Of Cannabis Dependence

Table 23 reports indicators of dependence as measured by the Indicators of Cannabis Dependence Scale. Only those students who had used (no fixed time period) cannabis two or three times were asked to answer the questions which comprised the Indicators of Cannabis Dependence Scale. Means, standard error and breakdowns by location size, region, gender, grade, ethnicity and age are presented for three groups:

- no indicators of cannabis dependence – score of 0
- one indicator of cannabis dependence – score of 1, and
- two to three indicators of cannabis dependence – score of 2 or more.

7.4 Use of Other Drugs

Table 24 presents results for the use and frequent use of ten drugs (see question 47). All students were asked to answer this question. Non users and users are identified. Given the small cell sizes, only grade breakdowns and totals are provided.

Table 21:
Frequency of cannabis use in the last 12 months (as percentages)*

	not at all	1 - 2 times	3 - 5 times	6 – 9 times	10 - 20 times	21 times or more
Total	72.4	8.9	4.5	3.1	3.2	7.8
Location						
Mid size metro	67.6	9.2	6.1	4.0	2.7	10.4
Small metro	74.2	10.2	2.8	3.0	5.3	4.5
Non-metro	73.1	4.8	4.6	0.2	10.5	6.9
Small town	73.8	8.4	4.3	2.0	4.0	7.6
Rural	80.4	7.4	2.9	2.2	1.4	5.7
Region						
North	76.8	7.7	3.9	1.8	2.5	7.2
Edmonton	68.9	12.6	3.5	4.0	5.0	6.0
Central	72.5	7.8	4.4	3.6	2.8	8.9
Calgary	69.1	7.9	6.9	2.9	2.7	10.5
South	82.7	5.9	1.9	2.4	2.1	4.9
Age						
Under 18 years old	72.8	8.4	4.5	3.1	3.3	7.9
18 years and over	52.9	34.4	4.3	3.4	0.1	4.9
Grade						
Grade 7	95.3	2.9	0.5	0.6	0.5	0.3
Grade 8	90.0	4.9	1.8	0.8	0.8	1.8
Grade 9	79.5	8.2	1.5	1.5	3.9	5.4
Grade 10	59.0	13.3	7.2	6.1	6.1	8.3
Grade 11	57.0	12.2	8.8	2.2	2.5	17.3
Grade 12 (< 20 yrs old)	58.3	11.0	6.7	6.5	5.1	12.4
Gender						
Male	70.1	9.1	4.6	3.2	2.6	10.4
Female	74.1	8.8	4.4	3.0	3.8	5.9
Ethnicity						
Non Aboriginal	73.2	8.5	4.5	3.1	3.0	7.7
Aboriginal	47.9	20.6	6.4	3.8	9.8	11.5

*Note: All students were asked to answer this question.

Table 22:
Cannabis use in the last four weeks among cannabis users (as percentages)*

	did not use in the last four weeks	once or twice	once or twice a week	three or four times each week	five or six times each week	once each day	more than once each day
Total	47.0	25.6	10.1	6.0	4.0	1.6	5.8
Location							
Mid size metro	45.0	26.3	9.7	6.0	5.5	0.0	7.5
Small metro	44.9	27.8	14.8	5.3	0.0	4.8	2.4
Non-metro	68.9	8.5	0.2	0.2	0.9	0.2	21.0
Small town	48.5	25.5	9.7	6.6	2.9	2.1	4.6
Rural	53.7	21.7	6.9	6.8	4.7	3.0	3.3
Region							
North	52.5	20.7	7.1	8.6	4.0	2.2	4.9
Edmonton	49.1	24.1	10.3	6.1	2.9	1.9	5.5
Central	49.1	22.5	12.3	6.7	2.8	3.0	3.7
Calgary	42.9	29.4	10.2	4.3	6.1	0.0	7.1
South	44.6	27.6	9.1	7.5	1.3	3.7	6.1
Age							
Under 18 years	45.2	26.6	10.4	6.1	4.2	1.6	5.8
18 years and over	87.1	2.0	3.4	2.9	0.2	0.5	3.9
Grade							
Grade 7	72.4	23.5	3.0	0.0	1.0	0.0	0.0
Grade 8	56.4	31.3	0.3	5.9	4.6	0.2	1.3
Grade 9	46.0	28.7	7.5	8.4	5.7	1.1	2.6
Grade 10	32.7	38.8	16.8	3.0	0.8	3.7	4.2
Grade 11	40.2	21.0	11.2	9.5	8.2	1.2	8.6
Grade 12 (<20 yrs old)	57.0	17.8	8.4	5.4	2.9	1.0	7.5
Gender							
Male	41.6	27.8	9.3	5.3	4.2	1.0	10.8
Female	52.7	23.7	10.9	6.8	3.9	1.1	0.9
Ethnicity							
Non Aboriginal	47.2	26.7	9.0	6.1	3.7	1.6	5.7
Aboriginal	43.5	6.8	29.0	3.8	9.3	1.3	6.3

*Note: Only those respondents who had used cannabis 2-3 times or more in the last 12 months were asked this question.

Table 23:
Mean, standard error and percentage of cannabis users by indicators of dependence scores

	Mean	Standard Error	scored 0[1]	scored 1[2]	scored 2 - 3[3]
Total	0.21	0.53	83.9	10.3	5.8
Location					
Mid metro	0.25	0.57	82.3	10.6	7.1
Small metro	0.19	0.49	85.4	10.4	4.2
Non-metro	0.35	0.61	72.7	20.0	7.3
Small town	0.23	0.54	83.0	11.4	5.6
Rural	0.16	0.46	88.3	7.7	4.0
Region					
North	0.20	0.51	85.0	9.9	5.1
Edmonton	0.21	0.52	84.8	9.8	5.4
Central	0.25	0.56	81.3	12.4	6.3
Calgary	0.23	0.56	83.2	10.2	6.7
South	0.16	0.46	87.8	8.5	3.7
Age					
Under 18	0.22	0.53	84.1	10.2	5.7
18 and over	0.19	0.52	86.2	8.2	5.6
Grade					
Grade 7	0.03	0.21	97.4	2.1	0.6
Grade 8	0.08	0.35	93.9	3.9	2.2
Grade 9	0.14	0.42	89.1	8.0	2.9
Grade 10	0.22	0.54	84.6	9.1	6.3
Grade 11	0.37	0.64	72.3	18.5	9.1
Grade 12 (< 20 yrs old)	0.41	0.69	70.7	17.8	11.6
Gender					
Male	0.26	0.56	80.5	13.2	6.3
Female	0.18	0.50	86.9	7.8	5.2
Ethnicity					
Aboriginal	0.21	0.53	84.5	9.8	5.7
Non Aboriginal	0.31	0.56	74.1	20.7	5.1

[1] score of 0 – no indicators of cannabis dependence

[2] score of 1 – one indicator of cannabis dependence

[3] score of 2 or more – two to three indicators of cannabis dependence

Table 24:
Other drug use by grade (as percentages)*

	not at all	1 - 2 times	3 - 5 times	6 - 9 times	10 - 20 times	21 times or more
Cocaine						
Grade 7 - 9	99.5	0.5	0.1	0.0	0.0	0.0
Grade 10 - 12 (under 20 years)	94.9	3.1	1.1	0.8	0.1	0.0
Total	97.1	1.9	0.6	0.4	0.1	0.0
Crack						
Grade 7 – 9	99.2	0.5	0.3	0.0	0.0	0.0
Grade 10 - 12 (under 20 years)	95.3	3.4	0.2	1.0	0.0	0.0
Total	97.2	2.0	0.3	0.5	0.0	0.0
Hallucinogens						
Grade 7 – 9	98.4	1.1	0.0	0.4	0.1	0.0
Grade 10 - 12 (under 20 years)	93.9	2.6	1.0	1.3	0.7	0.4
Total	96.1	1.9	0.5	0.9	0.4	0.2
Inhalants						
Grade 7 – 9	93.2	4.1	0.9	1.0	0.6	0.3
Grade 10 - 12 (under 20 years)	95.4	3.7	0.3	0.1	0.0	0.5
Total	94.4	3.9	0.6	0.5	0.3	0.4
Uppers without a Prescription						
Grade 7 – 9	97.9	1.4	0.4	0.3	0.0	0.0
Grade 10 - 12 (under 20 years)	94.4	2.9	0.8	0.3	0.3	1.4
Total	96.0	2.2	0.6	0.3	0.1	0.7
Downers without A prescription						
Grade 7 – 9	98.3	1.4	0.2	0.0	0.0	0.0
Grade 10 - 12 (under 20 years)	97.1	2.1	0.3	0.1	0.2	0.2
Total	97.7	1.8	0.3	0.1	0.1	0.1
Club drugs						
Grade 7 – 9	97.3	1.6	0.5	0.4	0.1	0.0
Grade 10 - 12 (under 20 years)	92.4	3.2	1.7	1.0	1.1	0.6
Total	94.7	2.4	1.1	0.7	0.6	0.3
Steroids						
Grade 7 – 9	99.3	0.5	0.1	0.0	0.1	0.0
Grade 10 - 12 (under 20 years)	98.4	1.1	0.3	0.0	0.0	0.2
Total	98.8	0.9	0.2	0.0	0.0	0.1

Table 24 (continued)

	not at all	1 - 2 times	3 - 5 times	6 - 9 times	10 - 20 times	21 times or more
Heroin or opium						
Grade 7 – 9	98.9	0.7	0.4	0.0	0.0	0.0
Grade 10 - 12 (under 20 years)	98.3	1.6	0.0	0.0	0.0	0.0
Total	98.6	1.2	0.2	0.0	0.0	0.0
Magic Mushrooms						
Grade 7 – 9	95.0	2.4	1.7	0.5	0.1	0.3
Grade 10 - 12 (under 20 years)	84.7	5.4	4.1	2.7	1.7	1.3
Total	89.6	4.0	2.9	1.7	0.9	0.9

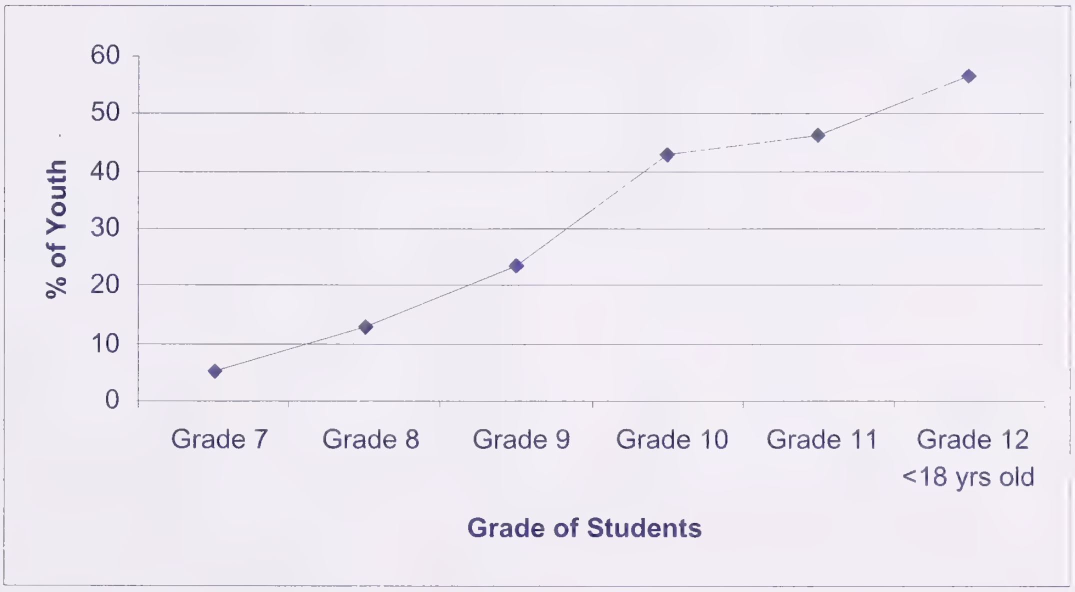
*Note: All students were asked to answer this question.

7.5 Summary of Major Findings

7.5.1 Cannabis Use

- 27.6% of youth had used cannabis in the last 12 months.
- 32.4% of youth in urban areas with a population of greater than 500,000 had tried or used cannabis compared to 19.6% of youth in rural areas.
- The percentage of youth who had used or tried cannabis varied by region. The highest percentage of youth having used or tried cannabis was in the Edmonton (31.1%) and Calgary (30.9%) regions. The lowest reported level of use was in Southern Alberta (17.3%).
- There was a notable difference in use by grade. Grades 7 and 8 had the lowest percentage of cannabis users and Grades 10 to 12 had the highest percentage. There was a substantial jump in the percentage of users from grade 8 (10%) to grade 9 (20.5%) and from grade 9 to grade 10 (41%).
- 29.9% of males and 25.9% of females reported having used cannabis.
- 52.1% of Aboriginal youth had used cannabis compared to 26.8% of non Aboriginal youth.
- Figure 4 illustrates the percentage of youth in Alberta who have ever (no fixed time period) tried or used cannabis. The percentages increase with grade, from 5.1% of grade 7s to 56.7% of grade 12s.

Figure 4:
Percentage of youth by grade who have ever tried or used cannabis



7.5.2 Other Drug Use

- ☐ The vast majority (over 94%) of youth reported not having used cocaine, crack, hallucinogens, inhalants, uppers, downers, club drugs, steroids, and heroin or opium.

- ☐ There were some notable differences by grade.

  - 6.8% of grade 7-9 students reported having used inhalants compared to 4.6% of grade 10-12 students.

  - With the exception of inhalants, grade 10-12 students reported higher use of all other drugs than grade 7-9 students.

  - The most popular other drug for grade 10-12 students was magic mushrooms (15.3%) followed by club drugs (7.6%) and hallucinogens (6.1%).

8. GAMBLING BEHAVIOUR

In this section, the results are presented for gambling participation, frequent gambling participation as well as at-risk and problem gambling. Demographic breakdowns by location size, region, age, grade, gender and ethnicity are provided. These results are reported as subtables rather than six separate tables. Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

8.1 Gambling Participation

Table 25 presents results for gambling behaviour and frequency of participation pertaining to eight gambling activities (see question 9). Total percentages are provided as well as breakdowns for grades 7-9 and grades 10-12.

8.2 Frequent Gambling Participation

A separate measure was not used to assess frequent gambling participation. Information about frequent participation can be obtained from Table 25.

8.3 Gambling Problem Severity

SOGS-RA scores were combined with gambling frequency scores to identify four levels of gambling problem severity. Table 26 reports the results for gambling problem severity by location, region, age, grade, gender and ethnicity. Refer to Appendix A Table A-1 for a description of the four levels.

Table 25:
Gambling behaviour and frequency of participation (as percentages)*

	not at all	several times a year	less than once a month	about once a month	about once a week	daily or almost daily
Bet on sporting events on-line						
Grade 7 – 9	96.8	1.8	0.1	0.7	0.4	0.1
Grade 10 – 12	96.7	0.7	0.4	0.6	0.1	1.5
Total	96.8	1.2	0.3	0.7	0.2	0.8
Played video lottery terminals (VLT)						
Grade 7 – 9	98.6	0.7	0.4	0.1	0.1	0.0
Grade 10 – 12	94.9	1.9	2.1	0.3	0.1	0.7
Total	96.7	1.4	1.3	0.2	0.1	0.4
Played Sports Select Lottery						
Grade 7 – 9	98.1	0.7	0.7	0.3	0.1	0.1
Grade 10 – 12	94.6	2.4	0.9	1.1	0.9	0.1
Total	96.3	1.6	0.8	0.7	0.5	0.1
Played any other lottery (e.g., Lotto 649)						
Grade 7 – 9	94.3	3.9	1.0	0.7	0.1	0.0
Grade 10 – 12	92.4	3.1	2.3	1.9	0.1	0.1
Total	93.3	3.5	1.7	1.3	0.1	0.0
Played bingo						
Grade 7 – 9	88.2	7.8	2.5	1.4	0.1	0.1
Grade 10 – 12	92.7	4.7	1.6	0.3	0.4	0.1
Total	90.5	6.2	2.0	0.8	0.3	0.1
Bet on sporting events with a friend						
Grade 7 – 9	81.8	10.8	4.2	1.8	0.9	0.5
Grade 10 – 12	76.3	11.0	5.1	4.2	3.2	0.3
Total	78.9	10.9	4.7	3.0	2.1	0.4
Played cards for money						
Grade 7 – 9	81.5	9.6	4.6	3.0	0.8	0.5
Grade 10 – 12	72.9	13.8	5.7	4.6	2.2	0.8
Total	77.0	11.8	5.2	3.8	1.5	0.7
Played scratch tabs (e.g., Scratch & Win)						
Grade 7 – 9	74.1	11.7	7.5	5.7	0.7	0.3
Grade 10 – 12	64.6	19.8	8.2	4.7	2.5	0.3
Total	69.2	15.9	7.8	5.2	1.7	0.3

*Note: All students were asked to answer this question.

Table 26: Gambling problem severity by location size, region, age, grade, gender and ethnicity (as percentages)

	Non-gamblers[1]	Non-problem gamblers	Hazardous gamblers	Potential problem gamblers
Total	58.8	31.7	5.7	3.8
Location				
Mid size metro	55.5	32.0	6.7	5.9
Small metro	63.8	29.8	4.5	1.9
Non metro	47.3	36.9	15.1	0.7
Small town	57.3	33.6	6.2	2.9
Rural	62.3	31.6	3.9	2.2
Region				
North	60.3	31.2	5.7	2.8
Edmonton	63.2	27.7	6.1	3.0
Central	57.3	34.3	6.0	2.3
Calgary	53.7	34.0	5.7	6.5
South	61.1	32.1	4.3	2.5
Age				
Under 18 years old	58.3	32.0	5.8	3.9
18 years and over	82.0	14.5	2.2	1.4
Grade				
Grade 7	70.7	24.5	2.4	2.4
Grade 8	62.4	29.0	6.3	2.3
Grade 9	56.5	37.5	4.9	1.1
Grade 10	60.1	29.8	7.3	2.9
Grade 11	50.4	33.0	4.5	12.1*
Grade 12 (< 20 yrs old)	53.8	35.5	8.3	2.4
Gender				
Male	46.6	38.0	7.5	7.9
Female	67.9	27.0	4.3	0.8
Ethnicity				
Non Aboriginal	58.6	32.0	5.6	3.8
Aboriginal	65.6	20.0	10.1	4.3

* This percentage is inflated due to small cell size and weighting.

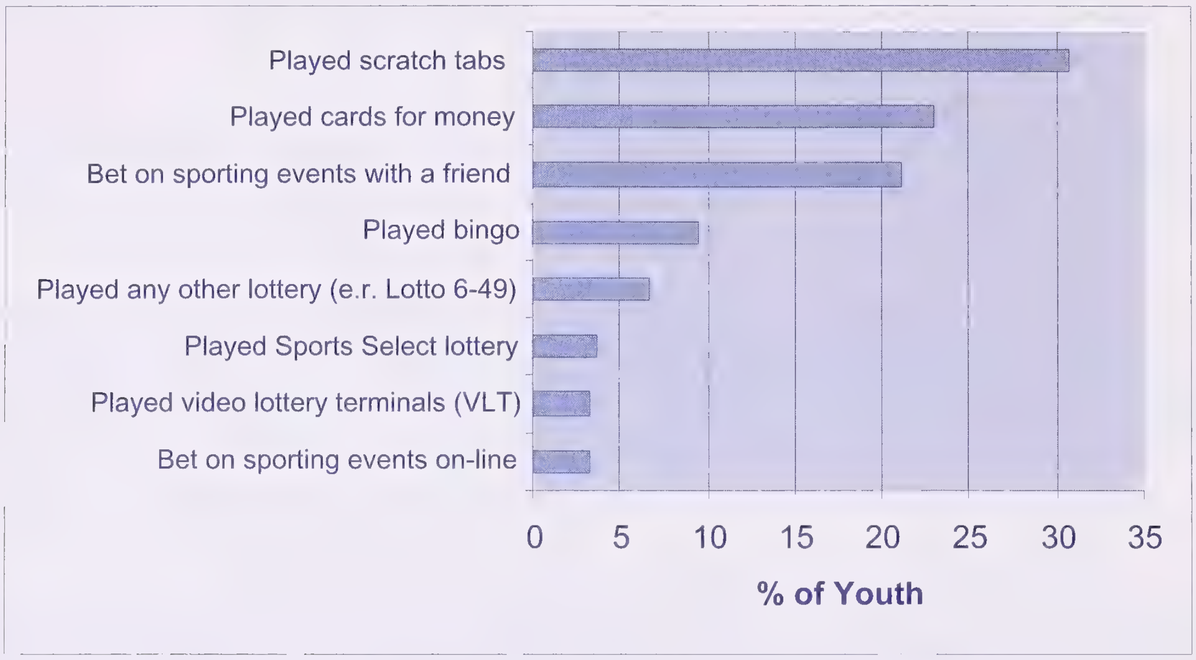
[1] Refer to pages 55,116 and 117 for information about gambling problem severity classifications.

8.4 Summary of Major Findings

8.4.1 Gambling Participation

- ☐ Figure 5 provides a summary of gambling participation in the last 12 months.

Figure 5:
Alberta youth who have participated in gambling activity (at least once in last 12 months)



- ☐ Scratch tabs (30.8%), playing cards for money (23%) and betting on sporting events with a friend (21.1%) were the highest reported gambling activities.
- ☐ A higher percentage of grade 10-12 students participated in gambling activities compared to grade 7-9 students except for playing bingo.
  - 11.8% of grade 7-9 students reported playing bingo compared to 7.3% of grade 10-12 students .

8.4.2 Gambling Problem Severity

- ☐ 58.8% of youths were non-gamblers and 31.7% were non-problem gamblers (when frequency of use and SOGS-RA scores were combined).
- ☐ 5.7% of youths were hazardous gamblers and 3.8% were potential problem gamblers.
- ☐ The results for potential problem gamblers show that there were notably higher percentages of students who were:
  - from mid size metro compared to other locations,
  - from the Calgary region compared to other regions, and
  - males compared to females.

Note: "Non-gamblers" refer to youths who indicated no gambling behaviour. "Non-problem gamblers" refer to youths who gambled with 0 or 1 of 12 possible problems reported. "Hazardous gamblers" refer to youths who gamble frequently with one problem or gamble less frequently with two or more problems. "Potential problem gamblers" refer to youths who gamble daily or gamble weekly with 2 or more problems.

9. RISK FACTORS

The following chart provides a list of the nineteen risk factors by domain

Domain	Risk Factors
Individual	• Age
	• Grade at first start: - alcohol - tobacco - cannabis - gambling
	• Ease of access to: - alcohol - cigarettes - cannabis
Peer	• Peer risk behaviour
Family	• Support/bonding with: - Mother - Father
	• Family history of substance abuse
	• Family smoking behaviour
	• Parent approval
	• Family discord
School	• School disconnection
	• Poor grades
	• Early signs of leaving school
Community	• Neighbourhood disorganization

In this section, tables are presented which show crosstabulations results for all risk factors (except age) with the following demographic variables: location size, region, age, grade, gender and ethnicity. Crosstabulations for age were presented in the demographics section of this report. Demographic breakdowns are reported as subtables rather than six separate tables.

Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

Cut-off points have been used rather than reporting the full range of scores. The cut-off points were determined based on quartile splits, midpoints or cut-offs reported in the research literature. It should be noted that the means and standard error are based on the original scale rather than the recoded scale. Refer to Appendix A for a detailed description of each original scale. Refer to Appendix D for descriptive statistics for each risk factor.

Table 27:
Grade in which students first drank alcohol among students who drank alcohol in the last 12 months – as percentages (question 33)

	Started in grades 4 – 7	Started in Grades 8 – 12
Total	55.5	44.5
Location		
Mid size metro	53.3	46.7
Small metro	57.6	42.4
Non-metro	45.9	54.1
Small town	52.6	47.4
Rural	61.6	38.4
Region		
North	57.4	42.6
Edmonton	55.4	44.6
Central	53.6	46.4
Calgary	55.4	44.6
South	56.5	43.5
Gender		
Male	61.2	38.8
Female	50.8	49.2
Ethnicity*		
Non Aboriginal	55.5	44.5
Aboriginal	55.0	45.0

* Note: Ethnicity is not statistically significant

Table 28:
Grade in which students first smoked cigarettes among students who smoked in the last 12 months – as percentages (question 24)

	Started in Grades 4 - 7	Started in grades 8 - 12
Total	61.5	38.5
Location		
Mid size metro	63.9	36.1
Small metro	53.2	46.8
Non-metro	70.1	29.9
Small town	62.3	37.7
Rural	62.9	37.1
Region		
North	65.0	35.0
Edmonton	49.9	50.1
Central	56.4	43.6
Calgary	73.5	26.5
South	65.5	34.5
Gender		
Male	64.0	36.0
Female	59.5	40.5
Ethnicity		
Non Aboriginal	60.6	39.4
Aboriginal	75.7	24.3

Table 29:
Grade in which students first tried cannabis among students who had used cannabis in the last 12 months – as percentages (question 50)

	Started in grades 4 – 7	Started in grades 8 - 12
Total	31.0	69.0
Location		
Mid size metro	34.3	65.7
Small metro	28.7	71.3
Non-metro	69.9	30.1
Small town	21.6	78.4
Rural	24.9	75.1
Region		
North	32.0	68.0
Edmonton	35.0	65.0
Central	24.8	75.2
Calgary	32.4	67.6
South	19.5	80.5
Gender		
Male	36.1	63.9
Female	25.7	74.3
Ethnicity		
Non Aboriginal	29.9	70.1
Aboriginal	47.2	52.8

Table 30:
Grade in which students first gambled or bet on things for money or possessions among students who had bet or gambled on any of the eight gambling activities in the last 12 months – as percentages (question 10)

	Started in grades 4 – 7	Started in grades 8 - 12
Total	73.4	26.6
Location		
Mid size metro	73.7	26.3
Small metro	79.4	20.6
Non-metro	65.6	34.4
Small town	66.0	34.0
Rural	72.3	27.7
Region		
North	69.9	30.1
Edmonton	80.5	19.5
Central	68.5	31.5
Calgary	72.7	27.3
South	73.0	27.0
Gender		
Male	76.8	23.2
Female	68.6	31.4
Ethnicity		
Non Aboriginal	73.9	26.1
Aboriginal	59.0	41.0

Table 31:
Ease of obtaining alcohol – as percentages among all students (question 60c)

	Difficult	Easy
Total	13.3	86.7
Location		
Mid size metro	10.7	89.3
Small metro	14.1	85.9
Non-metro	10.8	89.2
Small town	16.7	83.3
Rural	16.7	83.3
Region		
North	14.9	85.1
Edmonton	14.4	85.6
Central	12.0	88.0
Calgary	10.4	89.6
South	18.0	82.0
Age		
Under 18 years	13.6	86.4
18 years and over	3.0	97.0
Grade		
Grade 7	42.3	57.7
Grade 8	28.7	71.3
Grade 9	14.0	86.0
Grade 10	4.0	96.0
Grade 11	6.5	93.5
Grade 12 (< 20 yrs old)	2.3	97.7
Gender		
Male	11.3	88.7
Female	15.1	84.9
Ethnicity		
Non Aboriginal	13.3	86.7
Aboriginal	13.4	86.6

Note: Scale was originally 1 - 4 (extremely difficult, fairly difficult, fairly easy, extremely easy). The scale was collapsed to combine 1 and 2 (difficult) and 3 and 4 (easy). "Don't know" responses were not included in the analysis.

Table 32:
Ease of obtaining cigarettes - as percentages among all students (question 60a)

	Difficult	Easy
Total	21.6	78.4
Location		
Mid size metro	20.9	79.1
Small metro	21.0	79.0
Non-metro	18.3	81.7
Small town	21.6	78.4
Rural	24.1	75.9
Region		
North	22.4	77.6
Edmonton	17.6	82.4
Central	16.6	83.4
Calgary	25.7	74.3
South	25.6	74.4
Age		
Under 18 years	22.2	77.8
18 years and over	0.0	100.0
Grade		
Grade 7	54.8	45.2
Grade 8	42.9	57.1
Grade 9	30.6	69.4
Grade 10	10.5	89.5
Grade 11	9.9	90.1
Grade 12 (< 20 yrs old)	4.5	95.5
Gender		
Male	19.6	80.4
Female	23.2	76.8
Ethnicity		
Non Aboriginal	21.6	78.4
Aboriginal	21.1	78.9

Note: Scale was originally 1 - 4 (extremely difficult, fairly difficult, fairly easy, extremely easy). The scale was collapsed to combine 1 and 2 (difficult) and 3 and 4 (easy). "Don't know" responses were not included in the analysis.

Table 33:
Ease of obtaining cannabis - as percentages among all students (question 60d)

	Difficult	Easy
Total	34.7	65.3
Location		
Mid size metro	26.0	74.0
Small metro	44.3	55.7
Non-metro	14.9	85.1
Small town	38.3	61.7
Rural	46.5	53.5
Region		
North	40.9	59.1
Edmonton	33.9	66.1
Central	36.5	63.5
Calgary	28.7	71.3
South	43.5	56.5
Age		
Under 18 years	34.5	65.5
18 years and over	42.0	58.0
Grade		
Grade 7	79.0	21.0
Grade 8	67.0	33.0
Grade 9	46.1	53.9
Grade 10	20.1	79.9
Grade 11	16.7	83.3
Grade 12 (< 20 yrs old)	14.7	85.3
Gender		
Male	32.8	67.2
Female	36.4	63.6
Ethnicity		
Non Aboriginal	35.2	64.8
Aboriginal	21.5	78.5

Note: Scale was originally 1 - 4 (extremely difficult, fairly difficult, fairly easy, extremely easy). The scale was collapsed to combine 1 and 2 (difficult) and 3 and 4 (easy). "Don't know" responses were not included in the analysis.

Table 34:
Peer risk behaviour - mean, standard error and percentages among all students (question 72)

	Mean	Standard Error		Low risk	High risk
Total	12.41	4.54		80.0	20.0
Location					
Mid size metro	13.21	4.85		74.0	26.0
Small metro	11.66	4.11		84.1	15.9
Non-metro	12.83	3.92		82.6	17.4
Small town	12.18	4.37		81.6	18.4
Rural	11.48	4.02		88.1	11.9
Region					
North	11.71	4.14		85.3	14.7
Edmonton	12.37	4.27		81.4	18.6
Central	12.68	4.16		81.9	18.1
Calgary	13.10	5.13		72.2	27.8
South	11.28	4.08		87.9	12.1
Age					
Under 18 years	12.38	4.56		80.2	19.8
18 years and over	13.89	3.31		69.4	30.6
Grade					
Grade 7	8.36	2.30		98.3	1.7
Grade 8	9.97	3.42		96.2	3.8
Grade 9	11.61	4.10		86.7	13.3
Grade 10	13.60	4.10		77.2	22.8
Grade 11	15.06	4.65		64.1	35.9
Grade 12 (< 20 yrs old)	14.92	3.68		63.3	36.7
Gender					
Male	12.99	4.83		75.7	24.3
Female	11.96	4.25		83.3	16.7
Ethnicity					
Non Aboriginal	12.34	4.52		80.5	19.5
Aboriginal	14.46	4.60		64.5	35.5

Note: The scale's original range was 7 – 28. The scale was collapsed based on a midpoint. A score of less than 17 was coded as low risk and a score of 17 or greater was coded as high risk. Mean scores and standard error are based on the original 7 - 28 scale.

Table 35:
Mother support/bonding - mean, standard error and percentages among all students (questions 61-62)

	Mean	Standard Error	Low mother support	High mother support
Total	10.19	2.35	19.7	80.3
Location				
Mid size metro	10.06	2.59	23.1	76.9
Small metro	10.39	1.93	15.1	84.9
Non-metro	10.17	2.39	28.6	71.4
Small town	10.14	2.26	19.3	80.7
Rural	10.32	2.21	16.4	83.6
Region				
North	10.06	2.50	21.0	79.0
Edmonton	10.04	2.64	22.0	78.0
Central	10.26	2.06	17.2	82.8
Calgary	10.25	2.28	19.9	80.1
South	10.41	1.98	15.7	84.3
Age				
Under 18 years	10.17	2.36	19.9	80.1
18 years and over	11.21	1.70	6.3	93.7
Grade				
Grade 7	10.79	1.87	13.1	86.9
Grade 8	10.48	2.04	17.7	82.3
Grade 9	10.02	2.43	19.8	80.2
Grade 10	10.03	2.47	21.3	78.7
Grade 11	10.00	2.22	21.1	78.9
Grade 12 (< 20 yrs old)	9.94	2.73	23.8	76.2
Gender				
Male	10.31	2.23	16.9	83.1
Female	10.13	2.41	21.5	78.5
Ethnicity				
Non Aboriginal	10.21	2.34	19.5	80.5
Aboriginal	9.65	2.61	24.7	75.3

Note: The scale was originally 0 – 12. The scale was collapsed based on a quartile split. A score of 8 or less is low support and a score of 9 or greater is high support. Mean scores and standard error are based on the original 0 - 12 scale.

Table 36:
Father support/bonding - mean, standard error and percentages among all students (question 63-64)

	Mean	Standard Error	Low father support	High father support
Total	8.93	3.28	25.3	74.6
Location				
Mid size metro	8.62	3.40	27.7	72.3
Small metro	9.11	3.28	26.0	74.0
Non-metro	9.41	3.12	21.0	79.0
Small town	9.01	3.16	24.5	75.5
Rural	9.31	3.01	20.4	79.6
Region				
North	8.99	3.20	24.1	75.9
Edmonton	8.70	3.33	28.5	71.5
Central	8.88	3.25	26.8	73.2
Calgary	8.95	3.31	24.3	75.7
South	9.34	3.14	21.1	78.9
Age				
Under 18 years	8.92	3.28	25.5	74.5
18 years and over	9.50	2.89	15.0	85.0
Grade				
Grade 7	9.54	3.22	18.5	81.5
Grade 8	9.42	3.03	21.6	78.4
Grade 9	9.06	3.03	24.8	75.2
Grade 10	8.77	3.34	25.8	74.2
Grade 11	8.79	3.53	25.4	74.6
Grade 12 (< 20 yrs old)	8.19	3.26	33.7	66.3
Gender				
Male	9.26	3.15	21.7	78.3
Female	8.68	3.34	28.0	72.0
Ethnicity				
Non Aboriginal	8.94	3.26	24.9	75.1
Aboriginal	8.66	3.62	37.7	62.3

Note: The scale was originally 0 – 12. The scale was collapsed based on a quartile split. A score of 7 or less is low support and a score of 8 or greater is high support. Mean scores and standard error are based on the original 0 - 12 scale.

Table 37:
Student's perception of a family history of alcohol and drug abuse – as percentages among all students (question 70)

	Yes	No	Don't Know
Total	26.1	56.1	17.8
Location			
Mid size metro	29.9	53.4	16.8
Small metro	25.9	56.9	17.2
Non-metro	25.9	58.0	16.1
Small town	22.0	57.0	21.0
Rural	20.5	60.5	19.1
Region			
North	23.2	57.4	19.4
Edmonton	30.5	52.4	17.1
Central	22.8	53.8	23.4
Calgary	27.5	56.9	15.7
South	20.9	63.2	15.9
Gender			
Male	23.8	57.2	19.0
Female	28.2	54.8	17.0
Grade			
Grade 7	11.7	64.2	24.1
Grade 8	21.9	57.5	20.6
Grade 9	22.9	57.5	19.6
Grade 10	24.8	56.7	18.5
Grade 11	38.2	47.4	14.4
Grade 12 (< 20 yrs old)	33.8	54.5	11.7
Ethnicity			
Non Aboriginal	25.8	56.3	17.9
Aboriginal	33.4	50.5	16.2
Age			
Under 18 years	25.5	56.6	18.0
18 years and over	54.7	34.3	11.0

Note: All three response categories are presented (i.e., no cut-off point was used).

Table 38:
Family smoking behaviour - as percentages among all students (question 71)

	Yes	No	Don't Know
Total	52.0	45.6	2.4
Location			
Mid size metro	53.5	43.5	3.0
Small metro	49.8	48.8	1.4
Non-metro	58.8	39.8	1.4
Small town	52.3	46.2	1.4
Rural	50.5	46.8	2.8
Region			
North	56.1	42.1	1.8
Edmonton	55.7	43.0	1.3
Central	52.9	44.8	2.3
Calgary	48.6	47.8	3.6
South	46.8	50.8	2.5
Age			
Under 18 years	51.6	46.0	2.4
18 years and over	71.7	25.5	2.8
Grade			
Grade 7	43.4	53.6	3.1
Grade 8	51.0	46.4	2.6
Grade 9	51.4	45.1	3.5
Grade 10	54.1	43.4	2.5
Grade 11	54.0	44.8	1.2
Grade 12 (< 20 yrs old)	56.6	41.7	1.7
Gender			
Male	50.9	46.4	2.7
Female	53.3	44.5	2.2
Ethnicity			
Non Aboriginal	51.6	46.0	2.4
Aboriginal	65.3	33.7	1.0

Note: All three response categories are presented (i.e., no cut-off point was used).

Table 39:
Parent approval of smoking tobacco, drinking alcohol and using drugs - mean, standard error and percentages among all students (question 67)

	Mean	Standard Error	Strongly disapprove	Strongly approve
Total	4.68	2.16	69.9	30.1
Location				
Mid size metro	4.83	2.25	67.9	32.1
Small metro	4.46	1.98	73.1	26.9
Non-metro	4.70	2.21	71.2	28.8
Small town	4.73	2.12	69.8	30.2
Rural	4.58	2.12	70.7	29.3
Region				
North	4.67	2.24	71.2	28.8
Edmonton	4.56	1.92	71.6	28.4
Central	4.72	1.95	68.2	31.8
Calgary	4.92	2.42	66.6	33.4
South	4.36	2.02	74.6	25.4
Age				
Under 18 years	4.67	2.16	70.3	29.7
18 years and over	5.56	1.42	44.4	55.6
Grade				
Grade 7	3.88	1.91	86.9	13.1
Grade 8	4.08	2.05	81.8	18.2
Grade 9	4.62	2.08	69.6	30.4
Grade 10	4.58	1.88	72.9	27.1
Grade 11	5.37	2.49	59.9	40.1
Grade 12 (< 20 yrs old)	5.35	2.00	53.4	46.6
Gender				
Male	4.81	2.40	70.3	29.7
Female	4.59	1.95	69.3	30.7
Ethnicity				
Non Aboriginal	4.67	2.14	70.1	29.9
Aboriginal	5.03	2.47	63.3	36.7

Note: The original scale was 3 – 15. It was collapsed based on a quartile split. 5 or less is strongly disapprove and 6 or greater is strongly approve. Mean scores and standard error are based on the original 3 - 15 scale.

Table 40:
Family discord (student's perception of how well his/her parents get along) - as percentages among all students (question 65)

	Poorly	Not very well	Fairly well	Very well
Total	7.5	8.4	29.5	54.5
Location				
Mid size metro	8.5	9.8	35.2	46.6
Small metro	7.5	9.6	20.8	62.1
Non-metro	6.8	12.2	20.5	60.5
Small town	6.7	6.3	29.0	58.0
Rural	6.2	5.7	27.2	60.9
Region				
North	6.2	6.4	29.4	58.0
Edmonton	10.3	13.9	22.3	53.5
Central	7.2	9.0	27.3	56.5
Calgary	6.3	5.7	38.2	49.9
South	6.9	5.8	26.3	61.1
Age				
Under 18 years	7.7	7.9	29.7	54.8
18 years and over	1.4	37.9	18.9	41.9
Grade				
Grade 7	7.6	9.7	22.0	60.7
Grade 8	6.2	9.6	22.0	62.3
Grade 9	7.3	8.0	31.0	53.6
Grade 10	9.0	7.1	28.8	55.2
Grade 11	3.1	6.2	33.9	56.8
Grade 12 (< 20 yrs old)	11.1	9.8	37.4	41.8
Gender				
Male	7.1	5.4	28.2	59.3
Female	7.9	10.3	30.9	50.9
Ethnicity				
Non Aboriginal	7.5	8.4	29.9	54.2
Aboriginal	9.8	9.7	15.8	64.7

Note: All response categories are presented (i.e., no cut-off point was used).

Table 41:
Signs of school disconnection - mean, standard error and percentages among all students (question 75b, d, f, g)

	Mean	Standard Error		Low disconnection	High disconnection
Total	9.20	2.34		83.7	16.3
Location					
Mid size metro	9.27	2.37		83.5	16.5
Small metro	9.18	2.34		83.5	16.5
Non-metro	9.23	2.30		84.7	15.3
Small town	9.23	2.38		81.4	18.6
Rural	9.02	2.27		85.8	14.2
Region					
North	9.07	2.32		84.7	15.3
Edmonton	9.23	2.34		85.3	14.7
Central	9.25	2.37		80.9	19.1
Calgary	9.31	2.33		82.5	17.5
South	8.95	2.36		86.0	14.0
Age					
Under 18 years	9.17	2.35		84.0	16.0
18 years and over	10.21	1.90		72.9	27.1
Grade					
Grade 7	8.46	2.37		89.3	10.7
Grade 8	9.11	2.55		82.1	17.9
Grade 9	9.22	2.56		81.1	18.9
Grade 10	9.21	2.23		83.5	16.5
Grade 11	9.90	2.29		79.5	20.5
Grade 12 (< 20 yrs old)	9.18	1.90		86.8	13.2
Gender					
Male	9.81	2.46		75.5	24.5
Female	8.71	2.12		90.2	9.8
Ethnicity					
Non Aboriginal	9.16	2.34		84.4	15.6
Aboriginal	10.27	2.20		64.0	36.0

Note: The original scale was 4 – 20. It was collapsed based on a midpoint. 11 or less is low disconnection and 12 or greater is high disconnection. Mean scores and standard error are based on the original 4 - 20 scale.

Table 42:
Student's perceptions of school marks - as percentages among all students (question 74)

	80 - 100%	67 - 79%	60 – 66%	50 - 59%	less than 50%
Total	45.1	35.6	11.5	6.8	1.0
Location					
Mid size metro	41.0	37.4	12.0	8.6	0.9
Small metro	47.5	34.0	12.3	5.1	1.1
Non-metro	45.9	33.6	14.2	5.5	0.9
Small town	44.2	37.4	12.5	5.1	0.8
Rural	51.7	32.4	9.2	5.7	1.0
Region					
North	41.6	37.6	13.3	6.3	1.3
Edmonton	42.2	34.2	14.1	7.9	1.6
Central	41.9	38.4	13.7	4.8	1.2
Calgary	42.5	38.7	10.1	8.3	0.4
South	64.9	25.3	5.3	4.1	0.4
Age					
Under 18 years	45.9	35.6	11.0	6.5	1.0
18 years and over	7.0	33.1	36.8	22.1	1.1
Grade					
Grade 7	66.1	26.2	4.9	1.8	1.0
Grade 8	53.2	32.4	7.4	5.0	1.9
Grade 9	52.6	31.3	10.3	5.0	0.8
Grade 10	47.0	38.2	7.7	7.1	0.0
Grade 11	27.5	42.0	16.8	13.2	0.5
Grade 12 (< 20 yrs old)	28.8	41.5	20.0	8.3	1.4
Gender					
Male	36.6	40.1	11.6	10.1	1.6
Female	51.3	32.3	11.6	4.3	0.5
Ethnicity					
Non Aboriginal	45.3	35.9	11.2	6.8	0.9
Aboriginal	41.0	25.8	23.2	7.8	2.2

Note: All response categories are presented (i.e., no cut-off point was used).

Table 43:
Early signs of leaving school - mean, standard error and percentages among all students (question 76)

	Means	Standard Error		Low indicator of leaving	High indicator of leaving
Total	4.30	1.32		61.3	38.7
Location					
Mid size metro	4.46	1.46		56.2	43.8
Small metro	4.10	1.06		69.2	30.8
Non-metro	4.33	1.23		55.9	44.1
Small town	4.17	1.27		63.9	36.1
Rural	4.21	1.20		63.3	36.7
Region					
North	4.15	1.22		65.3	34.7
Edmonton	4.49	1.30		55.4	44.6
Central	4.10	1.20		68.5	31.5
Calgary	4.32	1.45		60.3	39.7
South	4.25	1.22		62.4	37.6
Age					
Under 18 years	4.29	1.32		61.8	38.2
18 years and over	4.79	1.12		39.9	60.1
Grade					
Grade 7	4.04	1.19		69.9	30.1
Grade 8	4.12	1.25		68.5	31.5
Grade 9	4.19	1.19		63.4	36.6
Grade 10	4.41	1.34		56.7	43.3
Grade 11	4.34	1.48		61.3	38.7
Grade 12 (< 20 yrs old)	4.58	1.34		51.4	48.6
Gender					
Male	4.33	1.41		60.8	39.2
Female	4.28	1.24		61.4	38.6
Ethnicity					
Non Aboriginal	4.29	1.31		61.5	38.5
Aboriginal	4.56	1.46		54.7	45.3

Note: The original scale was 3 – 12. It was collapsed based on a predetermined cutoff. 4 or less is a low indicator of leaving and 5 or greater is high indicator of leaving. Mean scores and standard error are based on the original 3 - 12 scale.

Table 44:
Student's perception of neighbourhood disorganization - mean, standard error and percentages among all students (question 80)

	Mean	Standard Error	Low disorganization	High disorganization
Total	13.65	1.94	95.5	4.5
Location				
Mid size metro	13.74	1.85	95.9	4.1
Small metro	14.07	1.33	99.5	0.5
Non-metro	12.48	2.81	87.1	12.9
Small town	13.42	2.30	91.4	8.6
Rural	13.19	2.20	93.3	6.7
Region				
North	12.99	2.43	90.1	9.9
Edmonton	13.75	1.81	96.8	3.2
Central	13.69	1.97	96.1	3.9
Calgary	13.85	1.69	96.6	3.4
South	13.62	1.93	95.6	4.4
Age				
Under 18 years	13.62	1.95	95.5	4.5
18 years and over	14.52	1.23	98.6	1.4
Grade				
Grade 7	13.56	1.84	96.9	3.1
Grade 8	13.52	2.09	93.9	6.1
Grade 9	13.53	2.02	95.4	4.6
Grade 10	13.56	2.04	94.8	5.2
Grade 11	13.83	1.96	93.9	6.1
Grade 12 (< 20 yrs old)	13.77	1.65	98.1	1.9
Gender				
Male	13.64	2.06	95.0	5.0
Female	13.65	1.82	96.0	4.0
Ethnicity				
Non Aboriginal	13.66	1.90	95.8	4.2
Aboriginal	13.06	2.85	86.7	13.3

Note: The original scale was 5 – 15. It was collapsed based on a midpoint. 9 or less is high disorganization and 10 or greater is low disorganization. Mean scores and standard error are based on the original 5 - 15 scale.

10. PROTECTIVE FACTORS

The following chart provides a list of the eight protective factors by domain.

Domain	Protective Factors
Individual	• Social skills
	• Participation in pro-social activities
Peer	• Peer influence on decision making
Family	• Parental monitoring
School	• School connection
	• High grades (80-100%)
Community	• Positive adults in neighbourhood
	• Availability of pro-social activities

In this section, tables are presented which show crosstabulation results for all of the protective factors with the following demographic variables: location size, region, age, grade, gender and ethnicity. Demographic breakdowns are reported as subtables rather than six separate tables.

Six separate chi-square tests were performed to determine statistical significance – one for each subtable. Each of these subtable analyses was statistically significant at the 0.05 level unless otherwise noted.

Cut-off points have been used rather than reporting the full range of scores. The cut-off points were determined based on quartile splits, midpoints or cut-offs reported in the research literature. It should be noted that the means and standard error are based on the original scale rather than the recoded scale. Refer to Appendix A for a detailed description of each original scale. Refer to Appendix D for descriptive statistics for each protective factor.

Table 45:
Social skills - mean, standard error and percentages among all students (questions 56-59)

	Mean	Standard Error		Low Skills	High Skills
Total	11.78	2.60		19.2	80.8
Location					
Mid size metro	11.64	2.57		19.1	80.9
Small metro	11.87	2.64		20.6	79.4
Non-metro	11.47	2.87		20.2	79.8
Small town	11.78	2.60		19.4	80.6
Rural	12.00	2.59		17.9	82.1
Region					
North	11.88	2.65		18.4	81.6
Edmonton	12.01	2.48		18.1	81.9
Central	11.45	2.69		24.4	75.6
Calgary	11.49	2.61		19.4	80.6
South	12.25	2.53		15.7	84.3
Age					
Under 18 years	11.78	2.61		19.3	80.7
18 years and over	11.54	2.09		13.1	86.9
Grade					
Grade 7	13.18	1.85		4.4	95.6
Grade 8	12.24	2.66		15.8	84.2
Grade 9	11.80	2.81		22.7	77.3
Grade 10	11.28	2.43		24.4	75.6
Grade 11	11.05	2.75		28.0	72.0
Grade 12 (< 20 yrs old)	11.26	2.39		19.7	80.3
Gender					
Male	11.03	2.82		30.0	70.0
Female	12.35	2.25		11.0	89.0
Ethnicity					
Non Aboriginal	11.81	2.58		18.8	81.2
Aboriginal	10.67	2.92		33.5	66.5

Note: The original scale was 4 – 16. It was collapsed based on a midpoint; 9 or less is low skills and 10 or greater is high skills. Mean scores and standard error are based on the original 4 - 16 scale.

Table 46:
Participation in pro-social activities - mean, standard error and percentages among all students (question 79)

	Mean	Standard Error	Low participation	High participation
Total	6.20	2.19	76.4	23.6
Location				
Mid size metro	5.94	2.01	79.4	20.6
Small metro	6.29	2.23	74.4	25.6
Non-metro	5.92	2.35	71.9	28.1
Small town	6.13	2.25	79.6	20.4
Rural	6.72	2.36	70.2	29.8
Region				
North	6.14	2.15	77.8	22.2
Edmonton	5.87	1.99	80.0	20.0
Central	6.14	2.06	79.4	20.6
Calgary	6.15	2.15	76.6	23.4
South	7.08	2.59	63.4	36.6
Age				
Under 18 years	6.22	2.19	76.3	23.7
18 years and over	5.16	1.82	80.9	19.1
Grade				
Grade 7	6.76	2.47	68.6	31.4
Grade 8	6.63	2.25	71.1	28.9
Grade 9	6.48	2.20	70.7	29.3
Grade 10	5.98	2.25	78.8	21.2
Grade 11	5.85	1.88	82.5	17.5
Grade 12 (< 20 yrs old)	5.70	1.91	83.4	16.6
Gender				
Male	6.41	2.32	73.1	26.9
Female	6.03	2.08	78.7	21.3
Ethnicity				
Non Aboriginal	6.21	2.19	76.0	24.0
Aboriginal	5.85	2.09	86.6	13.4

Note: The original scale was 4 – 20. It was collapsed based on a quartile split. 7 or less is low participation and 8 or greater is high participation. Mean scores and standard error are based on the original 4 - 20 scale.

Table 47:
Peer influence on decision making - mean, standard error and percentages among all students (question 73)

	Mean	Standard Error		Low Influence	High Influence
Total	1.74	1.94		10.8	89.2
Location					
Mid size metro	1.85	1.92		9.0	91.0
Small metro	1.71	1.89		11.2	88.8
Non-metro	1.56	1.69		5.5	94.5
Small town	1.65	1.99		13.1	86.9
Rural	1.58	2.02		13.1	86.9
Region					
North	1.66	1.96		11.5	88.5
Edmonton	1.88	1.85		9.0	91.0
Central	1.46	1.95		15.3	84.7
Calgary	1.78	1.99		10.3	89.7
South	1.78	1.96		9.4	90.6
Age					
Under 18 years	1.75	1.96		10.9	89.1
18 years and over	1.51	1.24		5.3	94.7
Grade					
Grade 7	2.17	2.04		7.8	92.2
Grade 8	1.69	2.10		11.7	88.3
Grade 9	1.73	1.84		9.9	90.1
Grade 10	1.69	1.93		12.0	88.0
Grade 11	1.57	1.83		13.2	86.8
Grade 12 (< 20 yrs old)	1.66	1.88		10.1	89.9
Gender					
Male	1.21	2.02		18.4	81.6
Female	2.16	1.78		5.0	95.0
Ethnicity					
Non Aboriginal	1.74	1.94		10.9	89.1
Aboriginal	1.64	2.04		8.6	91.4

Note: The original scale was -6 to +6. It was collapsed based on a midpoint. -1 or less is low influence and 0 or greater is high influence. Mean scores and standard error are based on the original -6 to +6 scale.

Table 48:
Parental monitoring when out after school, at night and on weekends - mean, standard error and percentages among all students (question 66)

	Mean	Standard Error	Low monitoring	High monitoring
Total	16.15	3.22	8.3	91.7
Location				
Mid size metro	15.87	3.25	9.5	90.5
Small metro	16.20	3.22	7.4	92.6
Non-metro	16.02	3.25	8.8	91.2
Small town	16.43	3.10	7.4	92.6
Rural	16.56	3.19	7.4	92.6
Region				
North	16.42	3.20	7.4	92.6
Edmonton	16.18	3.30	7.7	92.3
Central	15.99	3.28	10.4	89.6
Calgary	15.88	3.18	9.2	90.8
South	16.66	3.05	6.3	93.7
Age				
Under 18 years	16.17	3.23	8.4	91.6
18 years and over	15.52	3.00	5.0	95.0
Grade				
Grade 7	17.98	2.54	2.9	97.1
Grade 8	17.14	2.98	4.7	95.3
Grade 9	16.45	3.14	6.4	93.6
Grade 10	15.82	2.94	7.1	92.9
Grade 11	15.22	3.01	10.6	89.4
Grade 12 (< 20 yrs old)	14.74	3.39	16.4	83.6
Gender				
Male	15.66	3.34	10.0	90.0
Female	16.52	3.09	7.1	92.9
Ethnicity				
Non Aboriginal	16.21	3.18	7.8	92.2
Aboriginal	14.39	4.10	23.9	76.1

Note: The original scale was 4 – 20. It was collapsed based on a midpoint. 11 or less is low parental monitoring and 12 or greater is high parental monitoring. Mean scores and standard error are based on the original 4 - 20 scale.

Table 49:
Signs of school connection – mean, standard error and percentages among all students (question 75a, c, e)

	Mean	Standard Error	Low school connection	High school connection
Total	9.88	2.25	25.2	74.8
Location				
Mid size metro	9.92	2.31	23.7	76.3
Small metro	9.83	2.17	26.9	73.1
Non-metro	9.84	2.25	24.5	75.5
Small town	9.77	2.22	30.0	70.0
Rural	9.91	2.23	23.6	76.4
Region				
North	9.85	2.24	25.8	74.2
Edmonton	10.05	2.26	23.5	76.5
Central	9.72	2.20	26.7	73.3
Calgary	9.75	2.29	25.9	74.1
South	10.04	2.18	24.1	75.9
Age				
Under 18 years	9.89	2.26	25.0	75.0
18 years and over	9.30	1.91	32.1	67.9
Grade				
Grade 7	10.93	2.30	13.8	86.2
Grade 8	10.24	2.26	20.6	79.4
Grade 9	9.72	2.25	26.3	73.7
Grade 10	9.79	2.01	22.9	77.1
Grade 11	9.16	2.31	37.6	62.4
Grade 12 (< 20 yrs old)	9.60	2.02	27.8	72.2
Gender				
Male	9.31	2.39	34.8	65.2
Female	10.32	2.03	17.6	82.4
Ethnicity				
Non Aboriginal	9.89	2.25	24.9	75.1
Aboriginal	9.38	2.41	32.9	67.1

Note: The original scale was 3 – 15. It was collapsed based on a midpoint. 8 or less is low connection and 9 or greater is high connection. Mean scores and standard error are based on the original 3 - 15 scale.

Table 50:
Student's perception of school grades – as percentages among all students (question 74)

	80 - 100%	67 - 79%	60 - 66%	50 - 59%	less than 50%
Total	45.1	35.6	11.5	6.8	1.0
Location					
Mid size metro	41.0	37.4	12.0	8.6	0.9
Small metro	47.5	34.0	12.3	5.1	1.1
Non-metro	45.9	33.6	14.2	5.5	0.9
Small town	44.2	37.4	12.5	5.1	0.8
Rural	51.7	32.4	9.2	5.7	1.0
Region					
North	41.6	37.6	13.3	6.3	1.3
Edmonton	42.2	34.2	14.1	7.9	1.6
Central	41.9	38.4	13.7	4.8	1.2
Calgary	42.5	38.7	10.1	8.3	0.4
South	64.9	25.3	5.3	4.1	0.4
Age					
Under 18 years	45.9	35.6	11.0	6.5	1.0
18 years and over	7.0	33.1	36.8	22.1	1.1
Grade					
Grade 7	66.1	26.2	4.9	1.8	1.0
Grade 8	53.2	32.4	7.4	5.0	1.9
Grade 9	52.6	31.3	10.3	5.0	0.8
Grade 10	47.0	38.2	7.7	7.1	0.0
Grade 11	27.5	42.0	16.8	13.2	0.5
Grade 12 (< 20 yrs old)	28.8	41.5	20.0	8.3	1.4
Gender					
Male	36.6	40.1	11.6	10.1	1.6
Female	51.3	32.3	11.6	4.3	0.5
Ethnicity					
Non Aboriginal	45.3	35.9	11.2	6.8	0.9
Aboriginal	41.0	25.8	23.2	7.8	2.2

Note: This is a duplicate of Table 42.

Table 51:
Student's perception of the presence of positive adults in the neighbourhood – mean, standard error and percentages among all students (question 77)

	Mean	Standard Error		Low level of positive adults	High level of positive adults
Total	8.78	4.61		70.7	29.3
Location					
Mid size metro	8.13	4.39		75.8	24.2
Small metro	8.32	4.50		76.1	23.9
Non-metro	8.13	4.29		73.6	26.4
Small town	8.93	4.60		70.1	29.9
Rural	10.64	4.74		54.5	45.5
Region					
North	9.16	4.69		66.8	33.2
Edmonton	8.32	4.44		75.6	24.4
Central	8.98	4.58		69.0	31.0
Calgary	8.23	4.46		74.7	25.3
South	10.36	4.84		58.2	41.8
Age					
Under 18 years	8.81	4.62		70.6	29.4
18 years and over	7.28	4.23		75.2	24.8
Grade					
Grade 7	10.67	5.00		56.7	43.3
Grade 8	10.20	4.94		56.8	43.2
Grade 9	8.84	4.65		71.0	29.0
Grade 10	8.15	4.21		74.8	25.2
Grade 11	7.82	4.13		77.9	22.1
Grade 12 (< 20 yrs old)	7.56	3.93		82.5	17.5
Gender					
Male	8.72	4.62		71.6	28.4
Female	8.83	4.61		70.1	29.9
Ethnicity					
Non Aboriginal	8.79	4.62		70.9	29.1
Aboriginal	8.68	4.53		66.2	33.8

Note: The original scale was 4 – 20. It was collapsed based on a quartile split; 11 or less is low level of positive adults and 12 or greater is high level of positive adults. Mean scores and standard error are based on the original 4 - 20 scale.

Table 52:
Availability of pro-social activities – mean, standard error and percentages among all students (question 78)

	Mean	Standard Error	2 or less are available	3 or more are available
Total	3.13	1.68	35.3	64.7
Location				
Mid size metro	2.63	1.69	49.1	50.9
Small metro	3.43	1.66	29.4	70.6
Non-metro	3.48	1.46	17.7	82.3
Small town	3.84	1.65	21.7	78.3
Rural	3.45	1.37	21.3	78.7
Region				
North	3.47	1.49	24.5	75.5
Edmonton	2.77	1.71	40.7	59.3
Central	3.54	1.70	24.6	75.4
Calgary	2.78	1.67	48.9	51.1
South	3.79	1.43	18.3	81.7
Age				
Under 18 years	3.12	1.69	35.7	64.3
18 years and over	3.65	1.43	13.3	86.7
Grade				
Grade 7	3.18	1.60	33.8	66.2
Grade 8	3.26	1.60	31.3	68.7
Grade 9	3.07	1.54	37.6	62.4
Grade 10	3.19	1.66	31.9	68.1
Grade 11	2.91	1.81	42.9	57.1
Grade 12 (<20 yrs old)	3.20	1.80	33.8	66.2
Gender				
Male	3.21	1.74	36.4	63.6
Female	3.07	1.64	34.4	65.6
Ethnicity				
Non Aboriginal	3.14	1.68	35.1	64.9
Aboriginal	3.06	1.83	39.8	60.2

Note: The original scale was 0 – 6. It was collapsed based on a predetermined point. 2 or less is low availability and 3 or greater is high availability. Mean scores and standard error are based on the original 0 - 6 scale.

11. ATODG BEHAVIOUR RELATED TO RISK AND PROTECTIVE FACTORS

11.1 Correlations: Frequency of Use/Participation

Correlations were run between:

- frequency of use/participation measures and risk factors (see Tables 53 and 54), and
- frequency of use/participation measures and protective factors (see Tables 55 and 56).

Please note that:

- All students were asked to answer the frequency of use/participation questions.
- In addition to alcohol and tobacco, only three gambling activities and two drugs (cannabis and magic mushrooms) were included in this analysis due to very small cell sizes for the other activities and drugs. Since the three gambling activities included have a slower cycle of play, they are currently believed to have less liability for stimulating dependence. As well, it can be argued that these activities are more socially accepted for adolescents than the excluded gambling activities. For this reason, caution is required in interpreting these results.

Pearson's correlation analysis was used for continuous variables and Spearman's correlation analysis was used for categorical variables. All reported correlations are significant at the 0.01 level or higher unless otherwise noted.

11.2 Correlations: Abusive Use/Participation

Correlations were also run between:

- abusive use/participation measures and risk factors (Table 57), and
- abusive use/participation measures and protective factors (Table 58).

It should be noted that:

- tobacco was not included in this analysis because the measure for frequency of use and abusive use was the same, and
- only those respondents who had used substances or participated in gambling responded to abusive use/participation questions.

All reported correlations are significant at the 0.01 level or higher unless otherwise noted.

Table 53:
Correlations between risk factors and measures of frequency of alcohol, tobacco, cannabis and magic mushroom use in the last 12 months (all respondents)

		Alcohol use (Q32)	Tobacco use (Q23)	Cannabis use (Q47b)	Magic mushroom use (Q47m)
	Factor				
Individual	Age	.447	.227	.293	.172
	Grade at first start: alcohol	.018	-.074	-.011	-.053
	Grade at first start: tobacco	.046	-.126	-.052	-.189
	Grade at first start: cannabis	-.231	-.307	-.189	-.329
	Grade at first start: gambling	NS	.086	.006*	NS
	Ease of access: alcohol	.370	.147	.238	.157
	Ease of access: cigarettes	.440	.239	.340	.175
	Ease of access: cannabis	.454	.279	.460	.291
Peer	Peer risk behaviour	.712	.467	.638	.446
Family	Mother support	-.174	-.212	-.154	-.074
	Father support	-.131	-.093	-.174	-.067
	Family discord	-.111	-.130	-.124	-.115
	Family history of abuse	.216	.151	.248	.230
	Smoking in family	.183	.134	.145	.067
	Parent approval of smoking, drinking and using drugs	.354	.230	.282	.286
School	School marks[1]	.320	.184	.281	.183
	School disconnection	.321	.231	.265	.227
	Early signs of leaving	.267	.274	.270	.212
Community	Neighbourhood disorganization	-.052	-.064	-.030	.007

Note:

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

* Significant at the .05 level.

NS - not significant

Table 54:
Correlations between risk factors and measures of frequency of participation in three gambling activities over the last 12 months (all respondents)

	Factor	Played cards for money (Q9b)	Bet on sporting events with friends (Q9c)	Played scratch tabs (Q9h)
Individual	Age	.093	.078	.073
	Grade at first start: alcohol	-.072	-.092	-.080
	Grade at first start: tobacco	-.166	-.046	-.088
	Grade at first start: cannabis	-.019	-.222	-.074
	Grade at first start: gambling	-.073	-.048	-.032
	Ease of access: alcohol	.148	.140	.124
	Ease of access: cigarettes	.108	.132	.104
	Ease of access: cannabis	.154	.173	.104
Peer	Peer risk behaviour	.306	.279	.197
Family	Mother support	-.017	-.047	-.037
	Father support	NS	.010	-.021
	Family discord	-.026	-.041	-.024
	Family history of abuse	.093	.051	.094
	Smoking in family	.053	.065	.124
	Parent approval of smoking, drinking and using drugs	.075	.122	.098
School	School marks[1]	.120	.095	.070
	School disconnection	.150	.180	.103
	Early signs of leaving	.123	.095	.126
Community	Neighbourhood disorganization	-.066	NS	-.051

Note:

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

* Significant at the .05 level.

NS - not significant

Table 55:
Correlations between protective factors and measures of frequency of alcohol, tobacco, cannabis and magic mushroom use in the last 12 months (all respondents)

	Factor	Alcohol use (Q32)	Tobacco use (Q23)	Cannabis use (Q47b)	Magic mushroom use (Q47m)
Individual	Social skills	-.603	-.343	-.425	-.283
	Participation in pro-social activities	-.157	-.127	-.151	-.069
Peer	Peer influences	-.233	-.119	-.141	-.182
Family	Parental monitoring	-.513	-.320	-.430	-.342
School	School marks[1]	.320	.184	.281	.183
	School connection	-.365	-.250	-.260	-.249
Community	Adult neighbours	-.249	-.158	-.240	-.169
	Availability of pro-social activities	NS	.090	.035	.053

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score. NS – not significant.

Table 56:
Correlations between protective factors and measures of frequency of participation in three gambling activities in the last 12 months (all respondents)

	Factor	Played cards for money (Q9b)	Bet on sporting events with friends (Q9c)	Played scratch tabs (Q9h)
Individual	Social skills	-.294	-.251	-.194
	Participation in pro-social activities	.024	.091	-.006
Peer	Peer influences	-.125	-.179	-.105
Family	Parental monitoring	-.238	-.235	-.204
School	School marks[1]	.120	.095	.070
	School connection	-.211	-.189	-.108
Community	Adult neighbours	-.069	-.017	-.033
	Availability of pro-social clubs	.004*	-.011	NS

Note: [1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.
* Significant at the .05 level. NS – not significant.

Table 57: Correlations between risk factors and abusive use/participation scales

		Audit	Indicators of Cannabis Dependence	SOGS-RA
	Factor			
Individual	Age	.294	.259	.057
	Grade at first start: alcohol	-.043	-.038	-.090
	Grade at first start: tobacco	-.064	-.151	-.185
	Grade at first start: cannabis	-.260	-.297	-.183
	Grade at first start: gambling	-.050	.052	-.078
	Ease of access: alcohol	.254	.200	.138
	Ease of access: cigarettes	.277	.279	.119
	Ease of access: cannabis	.370	.353	.257
Peer	Peer risk behaviour	.559	.499	.316
Family	Mother support	-.093	-.139	-.088
	Father support	-.100	-.121	-.056
	Family discord	-.068	-.091	-.082
	Family history of abuse	.153	.257	.159
	Smoking in family	.012	.144	.046
	Parent approval of smoking, drinking and using drugs	.213	.236	.104
School	School marks[1]	.221	.195	.125
	School disconnection	.271	.180	.236
	Early signs of leaving	.278	.166	.162
Community	Neighbourhood disorganization	-.073	-.066	-.161

Note:

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 58:
Correlations between protective factors and abusive use/ participation scales measures

		Audit	Indicators of Cannabis Dependence	SOGS-RA
	Factor			
Individual	Social skills	-.408	-.335	-.241
	Participation in pro-social activities	-.024	-.082	.085
Peer	Peer influences	-.168	-.112	-.142
Family	Parental monitoring	-.410	-.310	-.270
School	School marks[1]	.221	.195	.125
	School connection	-.275	-.187	-.218
Community	Adult neighbours	-.093	-.178	-.107
	Availability of pro-social activities	-.042	.009	.014

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

11.3 Total Number of Risk and Protective Factors

The total number of risk and protective factors was calculated and frequencies are presented for the percentage of students who have 0 – 19 risk factors (see Figure 6) and 0 – 8 protective factors (see Figure 7). It should be noted that:

- None of the students reported more than 17 risk factors.
- The zero category includes students who reported no risk or protective factors as well as missing cases.

Figure 6:
Number of risk factors reported by students

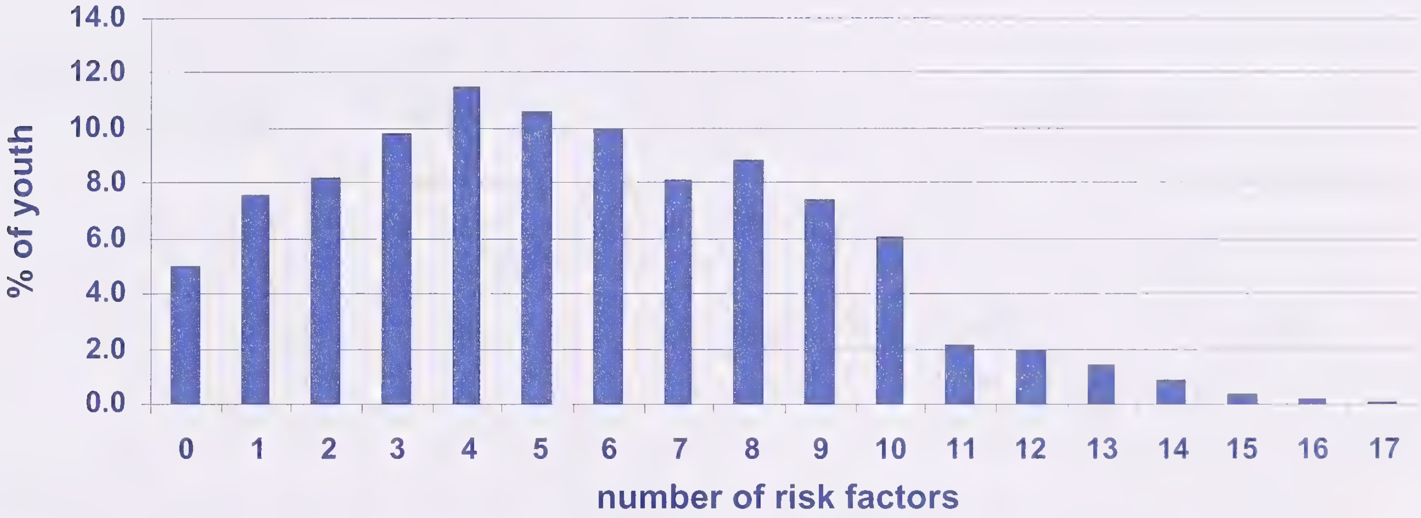
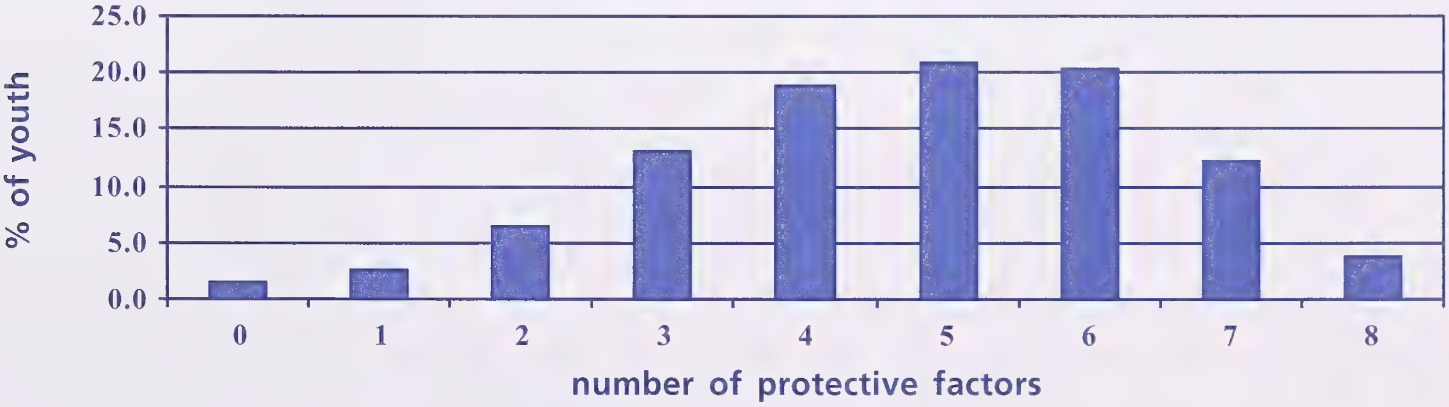


Figure 7:
Number of protective factors reported by students



11.4 Cumulative Effects

Analyses were conducted to assess the cumulative effects of risk and protective factors on past year use of alcohol, tobacco, cannabis and magic mushrooms as well as playing cards for money, betting on sporting events with a friend and playing scratch tabs. Risk factors were summed, protective factors were summed and the dependent variables mentioned above were recoded as users and nonusers. Crosstabulations were run for these dependent variables by risk factors and by protective factors. The crosstabulations identified the percentage of users by 0-19 risk factors and 0-8 protective factors. Cumulative effects of risk and protective factors were then calculated for each dependent variable and presented as graphs. The graphs present the percentage of users among all students.

Figure 8 shows the relationship between students who reported alcohol, tobacco, cannabis and magic mushroom use in the last 12 months and the number of risk factors. Figure 9 shows the relationship between gambling participation during the last 12 months and the number of risk factors.

Figure 10 shows the relationship between students who reported alcohol, tobacco, cannabis and magic mushroom use in the last 12 months and the number of protective factors. Figure 11 shows the relationship between gambling participation during the last 12 months and the number of protective factors.

It should be noted that only three gambling activities were included in this analysis because 90% or more students under 18 had not participated in the other activities.

Figure 8:
Cumulative effects of risk factors on substance use in the last 12 months

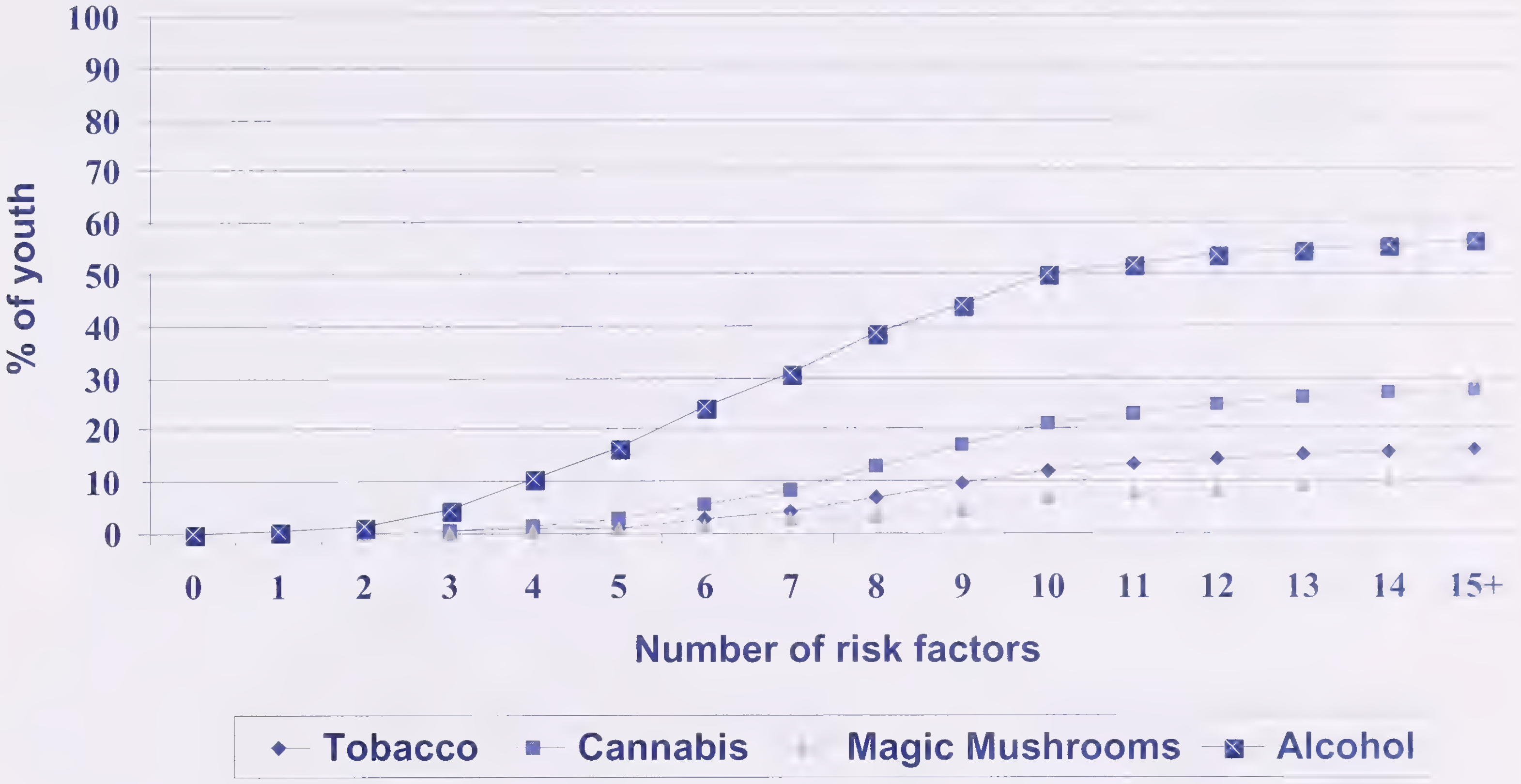


Figure 9:
Cumulative effects of risk factors on gambling participation in the last 12 months

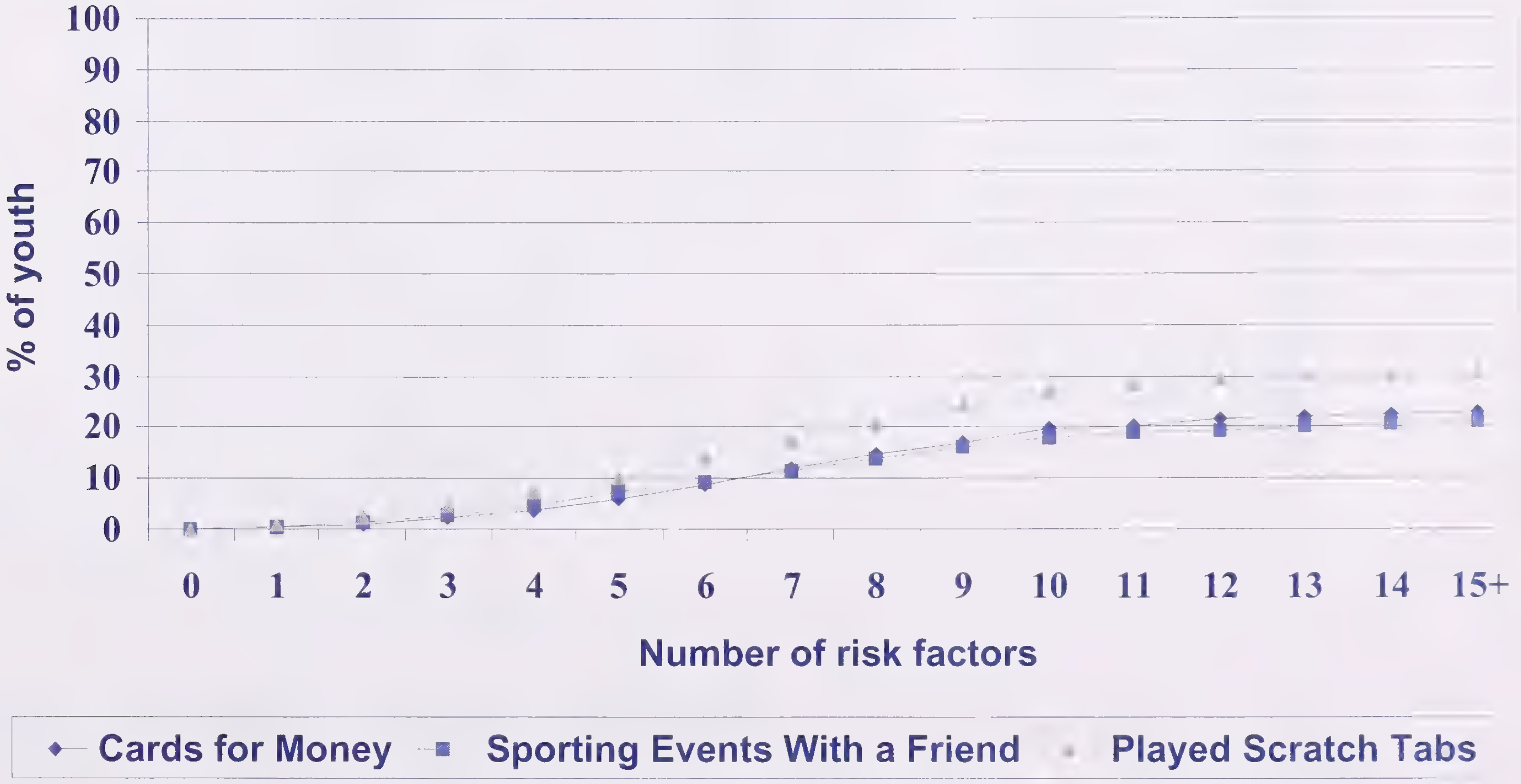


Figure 10:
Cumulative effects of protective factors on substance use in the last 12 months

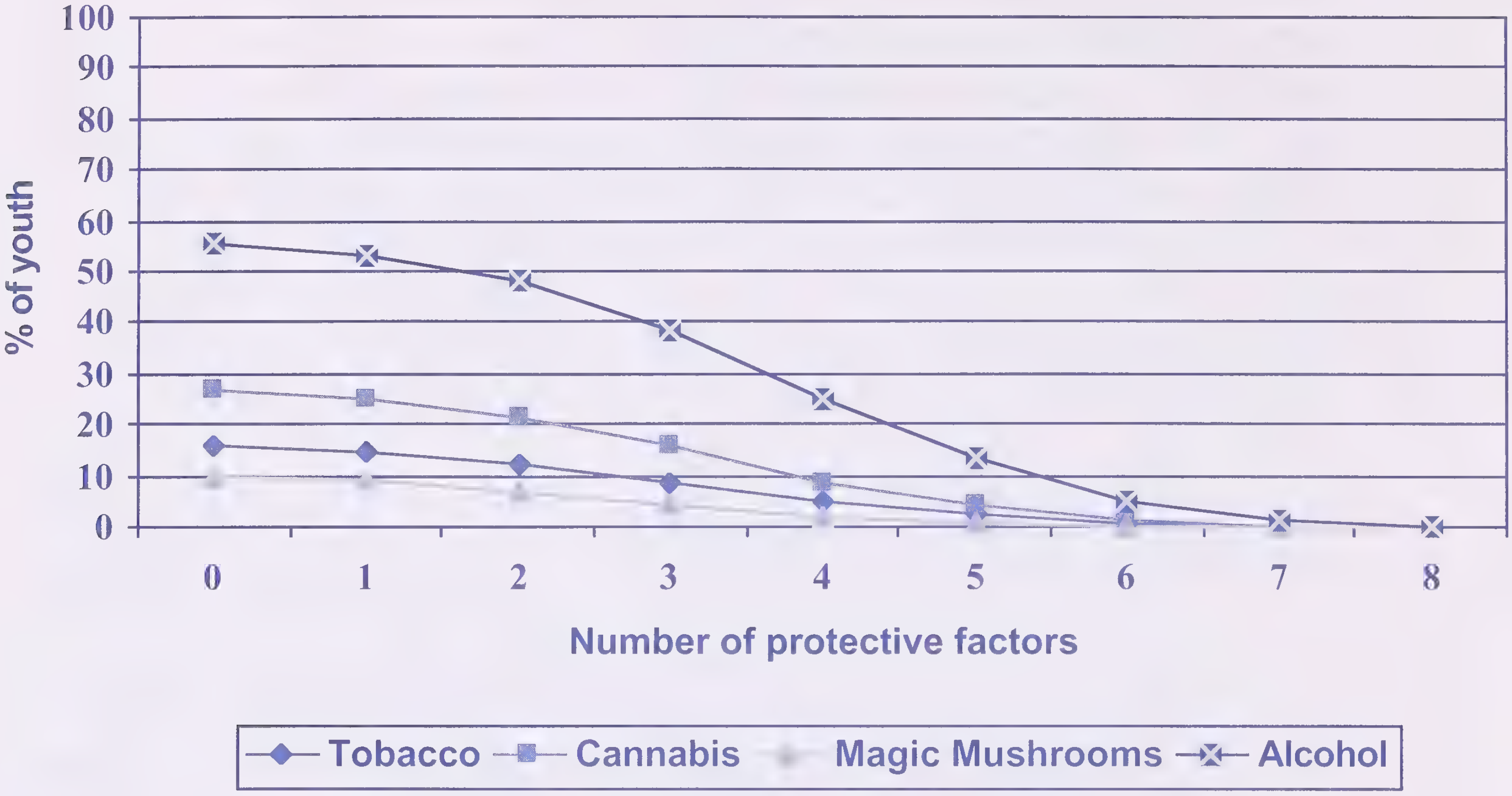
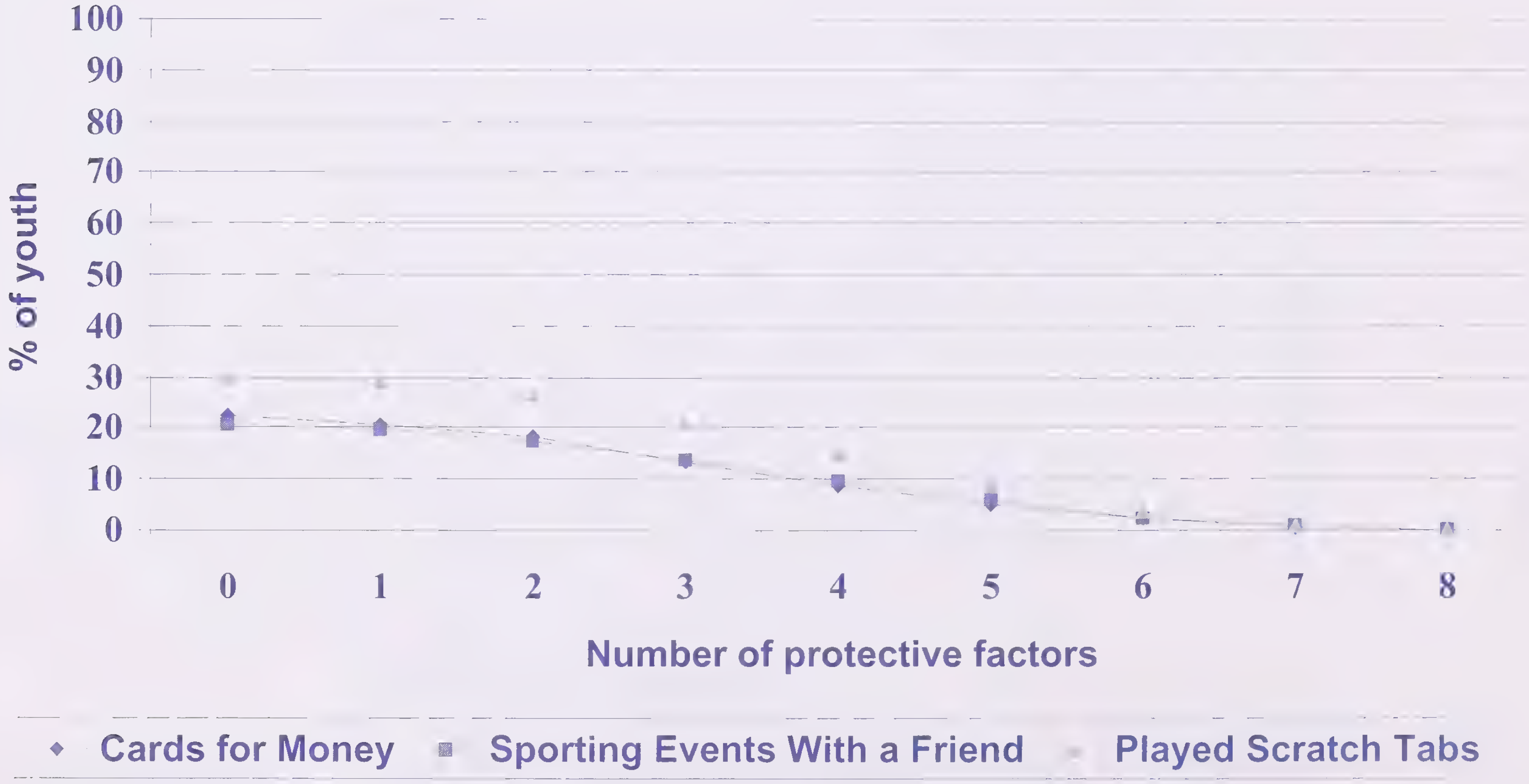


Figure 11:
Cumulative effects of protective factors on gambling participation in the last 12 months



11.5 Multiple Regression

Eight multiple regression equations were run. The regression analysis used was a forward stepwise regression. Hazardous and harmful alcohol use, indicators of cannabis dependence, gambling problems and tobacco use were run with all 8 protective factors and then 16 risk factors (3 ease of access factors were not included due to the high proportion of students who indicated "don't know"). Refer to Appendix D for descriptive statistics for the risk and protective factors.

Refer to Tables 59 through 66 for multiple regression results. Betas are for the final equation, not on entry of each step. These are standardized Betas. T is the statistic used to test the significance of Beta in the equation. P is the actual significance level of T. Adjusted R square is the amount of variance accounted for by the independent variable on the dependent variable. If we had 100% R square we would be able to predict without error the dependent variable. In other words, the R square is the proportion of variance in the dependent variable that we can consistently predict using the independent variables. Adjusted R square is adjusted on sample size and on variable standard error making it more accurate than the unadjusted R square value.

It should be noted that the intention of these multiple regression analyses was not to test hypotheses but rather to help identify the most important risk and protective factors related to alcohol, tobacco, cannabis and gambling abuse.

Table 59:
Regression analysis – Hazardous and harmful alcohol use (measured by the AUDIT) with risk factors

	Beta	T	p	R	Adjusted R square
Factor					
Peer risk behaviour	.110	12.331	.000	.335	.112
Family history of substance abuse	.177	19.947	.000	.439	.193
Age	.244	24.988	.000	.501	.251
School disconnection	.190	20.499	.000	.531	.281
Mother support	-.167	-21.147	.000	.548	.300
Early signs of leaving school	.100	12.219	.000	.560	.313
Grade at first start: tobacco	.088	9.268	.000	.568	.322
Family smoking behaviour	.124	15.071	.000	.574	.329
Neighbourhood disorganization	-.065	-7.507	.000	.580	.336
Parent approval of smoking, drinking and using drugs	.103	11.809	.000	.583	.340
Family discord	.066	8.312	.000	.586	.342
Father support	-.065	-7.783	.000	.588	.345
Grade at first start: cannabis	.070	6.619	.000	.589	.347
Grade at first start: gambling	-.052	-6.345	.000	.591	.348
School marks[1]	.027	3.062	.002	.591	.349

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 60:
Regression analysis – Tobacco use (measured by Q23) with risk factors

	Beta	t	p	R	Adjusted R square
Factor					
Father support	-.124	-14.955	.000	.318	.101
Family discord	-.302	-38.876	.000	.400	.160
Peer risk behaviour	.182	19.432	.000	.471	.221
Age	.223	23.260	.000	.510	.260
Grade at first start: tobacco	-.165	-17.487	.000	.536	.287
Early signs of leaving school	.097	11.186	.000	.540	.292
Neighbourhood disorganization	.097	11.100	.000	.545	.296
Grade at first start: gambling	-.087	-10.948	.000	.549	.300
School marks[1]	.082	9.070	.000	.551	.303
Mother support	-.059	-7.212	.000	.554	.306
School disconnection	-.049	-5.417	.000	.556	.308
Grade at first start: cannabis	.045	4.264	.000	.557	.309
Family history of substance abuse	-.026	-3.147	.002	.557	.310

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 61:
Regression analysis – Indicators of Cannabis Dependence (measured by the Indicators of Cannabis Dependence Scale) with risk factors

Factor	Beta	t	p	R	Adjusted R square
Age	.348	39.335	.000	.347	.120
Grade at first start: cannabis	-.251	-26.078	.000	.545	.297
Family discord	.257	36.707	.000	.566	.320
Grade at first start: tobacco	-.156	-16.741	.000	.596	.355
Family history of substance abuse	.096	12.745	.000	.614	.377
Father support	-.170	-22.797	.000	.627	.392
Grade at first start: gambling	.182	24.369	.000	.639	.408
School disconnection	.171	21.122	.000	.652	.425
Neighbourhood disorganization	.119	14.854	.000	.656	.430
Peer risk behaviour	.077	9.302	.000	.659	.434
Grade at first start: alcohol	-.080	-9.378	.000	.662	.437
School marks[1]	-.053	-6.384	.000	.663	.439
Early signs of leaving school	.018	2.272	.023	.663	.439
Parent approval of smoking, drinking and using drugs	-.015	-2.129	.033	.663	.439

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 62:
Regression analysis – Gambling problems (measured by the SOGS-RA) with risk factors

	Beta	t	p	R	Adjusted R square
Factor					
School disconnection	.310	36.821	.000	.412	.170
Age	-.263	-29.147	.000	.502	.252
History of family substance abuse	.249	31.724	.000	.537	.288
Early signs of leaving school	-.159	-20.429	.000	.567	.321
Peer risk behaviour	.289	34.694	.000	.603	.363
Parent approval of smoking, drinking and using drugs	-.153	-20.875	.000	.620	.384
Father support	.170	21.748	.000	.635	.402
Family discord	-.151	-21.024	.000	.650	.423
Mother support	.120	15.977	.000	.658	.432
Grade at first start: gambling	-.097	-12.493	.000	.666	.444
Grade at first start: cannabis	.112	11.148	.000	.670	.449
Grade at first start: alcohol	-.065	-7.582	.000	.674	.454
School marks[1]	-.055	-6.417	.000	.675	.456
Grade at first start: tobacco	-.046	-4.715	.000	.676	.457
Family smoking behaviour	-.016	-2.091	.037	.676	.457

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 63:
Regression analysis – Hazardous and harmful alcohol use (measured by the AUDIT) with protective factors

	Beta	t	p	R	Adjusted R square
Factor					
Parental monitoring	-.278	-89.595	.000	.418	.175
Social skills	-.251	-82.666	.000	.485	.235
School marks[1]	.078	27.664	.000	.491	.241
Peer influence on decision making	-.046	-16.503	.000	.493	.243
Participation in pro-social activities	.022	7.868	.000	.493	.243
School connection	-.018	-5.692	.000	.494	.244
Positive adults in neighbourhood	.011	3.883	.000	.494	.244

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 64:
Regression analysis – Tobacco use (measured by Q23) with protective factors

	Beta	t	p	R	Adjusted R square
Factor					
Social skills	-.202	-79.230	.000	.334	.112
Parental monitoring	-.185	-71.551	.000	.379	.144
Availability of pro-social activities	-.069	-32.781	.000	.390	.152
Participation in pro-social activities	-.062	-28.443	.000	.396	.157
School connection	-.063	-24.913	.000	.399	.159
Peer influence on decision making	.043	19.559	.000	.401	.161
School marks[1]	.016	6.946	.000	.401	.161
Positive adults in neighbourhood	-.007	-3.184	.001	.401	.161

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 65:
Regression analysis – Indicators of Cannabis Dependence (measured by the Indicators of Cannabis Dependence Scale) with protective factors

Factor	Beta	t	p	R	Adjusted R square
Social skills	-.232	-91.062	.000	.336	.113
Parental monitoring	-.170	-65.660	.000	.369	.136
Positive adults in neighbourhood	-.063	-27.337	.000	.374	.140
School marks[1]	.056	24.352	.000	.376	.141
Availability of pro-social activities	.049	23.048	.000	.379	.143
School connection	.042	16.465	.000	.380	.145
Participation in pro-social activities	-.028	-13.073	.000	.381	.145
Peer influence on decision making	.013	5.944	.000	.382	.146

[1] School marks was coded in reverse order – high marks were assigned a low score and low marks were assigned a high score.

Table 66:
Regression analysis – Gambling problems (measured by the SOGS-RA) with protective factors

Factor	Beta	t	p	R	Adjusted R square
Parental monitoring	-.168	-44.815	.000	.267	.071
Social skills	-.132	-36.442	.000	.300	.090
Participation in pro-social activities	.119	37.648	.000	.318	.101
School connection	-.081	-21.446	.000	.330	.109
Availability of pro-social activities	-.059	-18.439	.000	.334	.111
Peer influence on decision making	-.038	-11.226	.000	.336	.113

11.6 Summary of Findings

11.6.1 Correlations: Frequency of Use/Participation and Risk Factors

- ☐ Almost all risk factors were significantly correlated with frequency of use/participation measures although the strength of the relationships for most factors was low (less than .30).

- ☐ The strength of the relationships was low between all risk factors and all three gambling activities except for peer risk behaviour and played cards for money (moderate).

- ☐ Moderate and high correlations for alcohol, tobacco, cannabis and magic mushroom use are summarized in Table 67.

- ☐ While the strength of the relationship varied, peer risk behaviour had the strongest relationship with gambling activities (low to moderate) and each of the frequency of use measures (moderate to high).

Table 67:
Summary of correlations between risk factors and frequency of use measures

	High[1]	Moderate[2]
Alcohol use	• Peer risk behaviour	• Age • Parent approval • School marks • School disconnection • Ease of access: alcohol • Ease of access: cigarettes • Ease of access: cannabis
Tobacco use		• Grade at first start: cannabis • Peer risk behaviour
Cannabis use	• Peer risk behaviour	• Ease of access: cigarettes • Ease of access: cannabis
Mushroom use		• Grade at first start: cannabis • Peer risk behaviour

[1] High: strength of the relationship is .60 or greater
[2] Moderate: strength of the relationship is .30 to .59

11.6.2 Correlations: Abusive Use/Participation and Risk Factors

- ☐ All risk factors were significantly correlated with abusive use/participation measures although the strength of the relationships for most factors was low (less than .30).

- ☐ Peer risk behaviour had the strongest relationship with each of the abuse measures.

11.6.3 Correlations: Frequency of Use/Participation and Protective Factors

- ☐ Almost all protective factors were significantly correlated with frequency of use/participation measures although the strength of the relationships for many factors was low (less than .30).

- ☐ The strength of the relationships was low between all protective factors and all three gambling activities.

- ☐ Moderate and high correlations for alcohol, tobacco, cannabis and magic mushroom use are summarized in Table 68. Note that all relationships are inverse except school marks.

- ☐ Social skills and parental monitoring had the strongest relationships with gambling activities (low) and each of the frequency of use measures (moderate to high).

Table 68:
Summary of correlations between protective factors and frequency of use measures

	High[1]	Moderate[2]
Alcohol use	• Social skills	• Parental monitoring • School connection • School marks
Tobacco use		• Social skills • Parental monitoring
Cannabis use		• Social skills • Parental monitoring
Mushroom use		• Parental monitoring

[1] High: strength of the relationship is .60 or greater
[2] Moderate: strength of the relationship is .30 to .59

11.6.4 Correlations: Abusive Use/Participation and Protective Factors

- ☐ All of the protective factors were significantly correlated with each measure of abuse although most relationships were low (less than .30).

- ☐ Social skills and parental monitoring had the strongest relationships with each of the abuse measures.

11.6.5 Total Number of Risk Factors

Figure 6 shows that among all Alberta students included in the sample:

- ☐ 5% of students reported none of the risk factors included in the survey.
- ☐ Almost 53% of students reported 5 or fewer risk factors and 13.1% reported 10 or more risk factors.
- ☐ None of the students reported more than 17 risk factors.

11.6.6 Total Number of Protective Factors

Figure 7 shows that among all Alberta students included in the sample:

- ☐ 1.5% of students reported none of the protective factors.
- ☐ 3.8% of students reported all 8 protective factors.
- ☐ 76% report four or more protective factors.

11.6.7 Cumulative Effects: Risk Factors

Figures 8 and 9 show that:

- ☐ As the number of risk factors increases, the cumulative percentage of students who used alcohol, tobacco, cannabis and magic mushrooms and participated in three gambling activities increases.

11.6.8 Cumulative Effects: Protective Factors

Figures 10 and 11 show that:

- ☐ As the number of protective factors increases, the cumulative percentage of students who used alcohol, tobacco, cannabis and magic mushrooms and participated in the three gambling activities in the last 12 months decreases.

11.6.9 Multiple Regression: Variance Explained by Risk Factors

- Table 69 summarizes the total explained variance and the number of important factors that emerged.

Table 69:
Explained variance and number of risk factors

	Explained variance	Number of risk factors
Hazardous and harmful alcohol use	35%	15
Tobacco use	31%	13
Indicators of cannabis dependence	44%	14
Gambling dependence	46%	15

- Table 70 summarizes the five most important risk factors for each of the dependent variables.
  - As indicated in Table 70, age was one of the top five factors for all of the dependent variables.
  - Peer risk behaviour and family history of substance abuse were included in the top five factors for three of the dependent variables.

Table 70:
The five most important risk factors for each of the dependent variables

	Hazardous and harmful alcohol use	Tobacco use	Indicators of cannabis dependence	Gambling dependence
Risk factor				
Age	•	•	•	•
Family history of substance abuse	•		•	•
Peer risk behaviour	•	•		•
School disconnection	•			•
Family discord		•	•	
Grade at first start: tobacco		•	•	
Early signs of leaving school				•
Grade at first start: cannabis			•	
Mother support	•			
Father support		•		

11.6.10 Multiple Regression: Variance Explained by Protective Factors

☐ Table 71 summarizes the total explained variance and the number of important factors that emerged.

Table 71:
Explained variance and number of protective factors

	Explained variance	Number of protective factors
Hazardous and harmful alcohol use	24%	7
Tobacco use	16%	8
Indicators of cannabis dependence	15%	8
Gambling dependence	11%	6

☐ Table 72 summarizes the five most important protective factors for each of the dependent variables.

- As indicated in Table 72, parental monitoring and social skills were in the top five for all four dependent variables.
- Availability of and participation in pro-social activities emerged as one of the top five factors for all variables except indicators of cannabis dependence.

Table 72:
The five most important protective factors for each of the dependent variables.

	Hazardous and harmful alcohol use	Tobacco use	Indicators of cannabis dependence	Gambling dependence
Protective factor				
Parental monitoring	●	●	●	●
Social skills	●	●	●	●
Availability of pro-social activities		●	●	●
Participation in pro-social activities	●	●		●
School connection		●		●
School marks	●		●	
Peer influence on decision making	●			
Positive adults in neighbourhood			●	

12. CONSIDERATIONS FOR THE FUTURE IMPLEMENTATION OF *THE ALBERTA YOUTH EXPERIENCE SURVEY 2002*

12.1 Schools Size Strata 1-29 Students Should be Reconsidered

The sample design was based on randomly selecting schools from each of the 120 strata. These strata were based on five regions, six grades (7 through 12) and school size (segmented by the number of students: 1-29, 30-129, 130-329 and 330 & more). Thirteen of the 120 cells contained fewer than 30 students within the population. Within the final sample, nineteen cells did not contain any cases. This was mainly due to the these cells having too few students within the population.

The school size strata were based upon quartile splits of the total number of schools in the survey population. One quarter of the schools, therefore, were in the school size 1-29. The difficulty with this stratification is that the 1-29 category represents less than 1% of the students in the province, thereby making it very difficult and costly to sample.

One option for consideration is to collapse the 1-29 category and the 30 to 129 category. Further analysis should be conducted within the existing database to determine the impact of this decision.

12.2 Special Setting Schools

Several authorities were reluctant to allow us to survey special setting schools when these schools were selected within their jurisdiction. Special setting schools include schools for those with specific learning and lifestyle challenges. We recommend providing authorities with a better understanding of the sampling process and the importance of including all schools in the random design.

12.3 Over-Sample Edmonton and Calgary Schools

Schools within the Calgary and Edmonton authorities were the most difficult to include in the study due to internal and administrative processes and rules regarding surveys. The representation from some of the province's largest schools was less than ideal. One authority chose not to participate (resulting in two schools being dropped) and four schools chose not to participate although we had authority approval. The lag time between gaining approval and implementation did not allow for these schools to be replaced, hence the loss of data from urban schools. Unless increased cooperation can be obtained, the alternative is to over-sample the urban schools where we have authority approval.

12.4 Authority Approval

Once the initial sample was selected, only the school authorities with schools in the sample were contacted. If a school chose not to participate, the next school in our random sample was chosen from within the respective strata. In several cases this resulted in an authority being selected other than those included in the initial sample. This resulted in significant last minute effort to bring new authorities on board. We recommend wherever possible to obtain "school" approval in June for fall implementation. In this way, schools that are clearly not willing to participate can be replaced early in the process.

12.5 Other Schools

One of the reasons for excluding private, federal and provincial schools was due to the complicated approvals required in relation to the small number of students. As this was the first year of implementation, it was felt that the methodology should first be explored and perfected within the public school system. We recommend that the next *Alberta Youth Experience Survey 2002* consider including the remaining schools in the sample frame.

12.6 Questionnaire

During the survey pre-test a number of younger students appeared confused by reference to two drugs in particular: steroids and inhalants. Students noted that steroids were part of their treatments for such illnesses as asthma and wondered how they should answer this question. Question 47 asked student how often they "use inhalants" (glue, whiteout, etc.). Since the word "use" was not defined, this created some confusion. To maintain consistency with previous studies, these questions were not changed in the survey instrument. However, we have reason to believe that further investigation is warranted among younger students as to how these questions are interpreted. It is worth noting that the levels of use of inhalants reported by younger students was higher than older students.

13. UPCOMING REPORTS

The Alberta Youth Experience Survey 2002 is meant to be a continuing survey and it is supported by a number of reports. The following reports are currently planned or completed. Please note, some titles may change.

- **Risk and Protective Factors.** This report will summarize the extent to which risk and protective factors are present among Alberta adolescents. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.

- **Prevalence of Alcohol Use and Abuse.** This report will summarize findings on the prevalence of use and abuse of alcohol. Age groups, gender and regions of the province will be compared.

- **Prevalence of Drug Use and Abuse.** This report will summarize findings on the prevalence of use and abuse of drugs. Age groups, gender and regions of the province will be compared.

- **Prevalence of Gambling and Gambling Abuse.** This report will summarize findings on the prevalence of use and abuse of gambling. Age groups, gender and regions of the province will be compared.

- **Prevalence of Tobacco Use and Access to Tobacco Products.** This report will summarize findings on the prevalence of tobacco use and access to tobacco products. Age groups, gender and regions of the province will be compared.

- **Vulnerable Youth.** This report will examine the extent to which Alberta youth are "protected" (report low risk factors and high protective factors), "in limbo" (report both low protective factors and low risk factors); "dynamic" (report both high protective and high risk factors) or "vulnerable" (report low protective and high risk factors).

- **Focus on Individual Risk and Protective Factors.** This report will provide a detailed summary of individual risk and protective factors. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.

- **Focus on Peer Risk and Protective Factors.** This report will provide a detailed summary of peer risk and protective factors. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.

- **Focus on Family Risk and Protective Factors.** This report will provide a detailed summary of family risk and protective factors. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.

- **Focus on School Risk and Protective Factors.** This report will provide a detailed summary of school risk and protective factors. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.

- **Focus on Neighbourhood Risk and Protective Factors.** This report will provide a detailed summary of neighbourhood risk and protective factors. Age groups, gender and regions of the province will be compared. Major correlations with heavy use of alcohol, other drugs and gambling and with measures of dependence will be reported.
- **Grade and Gender.** This report will summarize alcohol, other drug and gambling use and abuse as well as major patterns in risk and protective factors by age and gender.
- **Urban and Rural Communities.** This report will summarize alcohol, other drug and gambling use and abuse as well as major patterns in risk and protective factors by size of city, town or rural area in which students live.
- **Service Demand Estimates.** This report will be a first estimate of the need for addictions prevention and treatment services among adolescents in Alberta.

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APPENDIX A

SCALE CONSTRUCTION

Scale Construction – Dependent Variables

The following pre-existing scales were used:

- Alcohol Use Disorders Identification Test to measure hazardous and harmful alcohol use,
- South Oaks Gambling Screen – Revised for Adolescents to measure gambling dependence, and
- Indicators of Cannabis Dependence to measure indicators of dependence on cannabis.

A detailed overview of each of these is presented in the following sections.

Alcohol Use Disorders Identification Test (AUDIT)

The AUDIT (see Babor et al., 1987) was used to assess "hazardous or harmful" drinking. This scale was constructed from answers to questions 32, 34, 35, 36, 38, 39, 40, 41, 43 and 44. The questions, response categories and points are presented below.

Question 32

In the LAST 12 MONTHS, how often have you drunk alcohol - liquor (rum, whiskey, etc.), wine or beer? "A drink" means a can or bottle of beer or wine cooler, a 4 ounce glass of wine, a shot of liquor (like whiskey, vodka or tequila) or a mixed drink. If you have only had a sip or taste of someone else's drink, or drank wine in a religious service, please indicate that you "Never drank alcohol in life time".

Response	Points
Drank alcohol, but not in the last 12 months	0
Never drank alcohol in lifetime	0
Had a sip of alcohol to see what it is like	0
Drink alcohol only at special events (for example a wedding)	0
Drink alcohol once a month or less often	1
Drink alcohol two or three times a month	2
Drink alcohol once a week	2
Drink alcohol two or three times a week	3
Drink alcohol four or five times a week	4
Drink alcohol almost every day - six or seven times a week	4

Question 34

How many drinks containing alcohol do you have on a typical day when you are drinking?

Response	Points
1 to 2 drinks	0
3 to 4 drinks	1
5 to 6 drinks	2
7 to 9 drinks	3
10 or more drinks	4

Question 35

How often do you have five or more drinks on one occasion?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 36
How often during the LAST 12 MONTHS have you found that you were not able to stop drinking once you had started?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 38
How often during the LAST 12 MONTHS have you needed a drink of alcohol in the morning to get yourself going after a heavy drinking session?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 39
How often during the LAST 12 MONTHS have you had a feeling of guilt after drinking?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 40
How often during the LAST 12 MONTHS have you been unable to remember what happened the night before because you had been drinking?

Response	Points
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 41
Have you or someone else been injured as a result of your drinking?

Response	Points
No	0
Yes, but not in the last 12 months	2
Yes, during the last 12 months	4

Question 43

How often during the LAST 12 MONTHS have you not done things you were supposed to because of drinking?

Response	**Points**
Never	0
Less than once a month	1
About once a month	2
About once a week	3
Daily or almost daily	4

Question 44

Has a relative or friend or a doctor or other health care worker, been concerned about your drinking or suggested you cut down?

Response	**Points**
No	0
Yes, but not in the last 12 months	2
Yes, during the last 12 months	4

The AUDIT score equals the sum of all the points for all 10 questions. Scores range from 0 to 40. Two well-validated cut-off points have been developed for the AUDIT: 1) the Adlaf cut-off and 2) the Babor cut-off.

The Adlaf cut-off was used for The Ontario Student Drug Use Survey (Adlaf & Paglia, 2001). Scores of 11 or higher were interpreted as "hazardous or harmful". Adlaf describes the AUDIT as "... designed to detect problem drinkers at the less severe end of the spectrum of alcohol problems" (p. 135). The AUDIT assess hazardous and harmful drinking. *Hazardous* drinking refers to an established pattern of drinking that increases the likelihood of future medical and physical problems (e.g., accidents), whereas *harmful* drinking refers to a pattern of drinking that is already causing damage to one's health (e.g., alcohol-related injuries). Hazardous drinking is often interpreted as a risk for harm. To avoid confusion with risk factors included in this survey, both hazardous and harmful drinking will be labeled "signs of alcohol abuse."

The Babor cut-off is based on international studies, primarily of adults. Babor et al. (1987) established a hazardous drinking cut-off point of 8 when developing and validating the AUDIT. A variety of studies have used this standard. For comparison purposes, *The Alberta Youth Experience Survey 2002* uses the Adlaf cut-off whereby a total score of 11 or higher indicates hazardous or harmful drinking.

South Oaks Gambling Screen – Revised for Adolescents (SOGS-RA)

Gambling abuse was measured by frequency of gambling behaviour combined with the SOGS-RA (Winters et al., 1993).

Frequency of gambling behaviour was measured by asking respondents to indicate how often they gambled or bet on eight activities for money:

- sporting events on-line,
- played cards for money,
- sporting events with a friend,
- played video lottery terminals,
- played bingo,
- played Sports Select lottery,
- played any other lottery, and
- played scratch tabs.

Response categories were "not at all", "several times a year", "less than once a month", "about once a month", "about once a week" and "daily or almost daily" (see survey question 9).

The SOGS-RA scale was constructed from answers to survey questions 11 – 22. The questions, response categories and points for the SOGS-RA are presented below.

Question 11
In the LAST 12 MONTHS, how often have you gone back another day to try to win back the money you lost?

Response	Points
Never	0
Some of the time	0
Most of the time	1
Every time	1

Question 12
In the LAST 12 MONTHS, when you were betting, have you ever told others you were winning money when you really weren't winning?

Response	Points
No	0
Yes	1

Question 13
In the Last 12 MONTHS, have you ever gambled more than you had planned to?

Response	Points
No	0
Yes	1

Question 14
Has your betting, in the LAST 12 MONTHS, ever caused any problems for you such as arguments with family and friends, or problems at school or work?

Response	Points
No	0
Yes	1

Question 15
In the LAST 12 MONTHS, has anyone criticized your betting or told you that you had a gambling problem, regardless of whether you thought it was true or not?

Response	Points
No	0
Yes	1

Question 16
In the LAST 12 MONTHS, have you ever felt badly about the amount you bet, or about what happens when you bet money?

Response	Points
No	0
Yes	1

Question 17

In the LAST 12 MONTHS, have you ever felt that you would like to stop betting money but didn't think you could?

Response	Points
No	0
Yes	1

Question 18

In the LAST 12 MONTHS, have you ever hidden any betting slips, I.O.U.s, lottery tickets, money that you've won, or other signs of gambling from family or friends?

Response	Points
No	0
Yes	1

Question 19

In the LAST 12 MONTHS, have you had arguments with family or friends because of the money you spend on gambling?

Response	Points
No	0
Yes	1

Question 20

In the LAST 12 MONTHS, have you borrowed money to bet and not paid it back?

Response	Points
No	0
Yes	1

Question 21

In the LAST 12 MONTHS, have you ever skipped or been absent from school or work due to betting activities?

Response	Points
No	0
Yes	1

Question 22

In the LAST 12 MONTHS, have you borrowed money or stolen something in order to bet or to cover gambling debts?

Response	Points
No	0
Yes	1

The SOGS-RA score equals the sum of all the points for all 12 questions. Scores range from 0 to 12.

A four-level system of gambling problem severity was constructed based on SOGS-RA scores and frequency of gambling behaviour. Refer to Table C-1 for an explanation of how the levels were determined.

Table C-1:
Gambling Problem Severity

Gambling frequency	**SOGS-RA score 0**	**SOGS-RA score 1**	**SOGS-RA score 2 or higher**
Not at all	Non-Gamblers	N/A	N/A
Several times a year	Non-Problem Gamblers	Non-Problem Gamblers	Hazardous Gamblers
Less than once a month	Non-Problem Gamblers	Non-Problem Gamblers	Hazardous Gamblers
About once a month	Non-Problem Gamblers	Non-Problem Gamblers	Hazardous Gamblers
About once a week	Non-Problem Gamblers	Hazardous Gamblers	Potential Problem Gamblers
Daily	Potential Problem Gamblers	Potential Problem Gamblers	Potential Problem Gamblers

Note: The cut-off of 2 or higher was used for comparison purposes with the OSDUS (see Adlaf & Paglia, 2001) and the Nova Scotia Student Drug Use 2002 Survey (see Poulin, 2002).

"Non-gamblers" refer to youths who indicated no gambling behaviour. "Non-problem gamblers" refer to youths who gambled with 0 or 1 of 12 possible problems reported. "Hazardous gamblers" refer to youths who gamble frequently with one problem or gamble less frequently with two or more problems. "Potential problem gamblers" refer to youths who gamble daily or gamble weekly with 2 or more problems.

Indicators of Cannabis Dependence

The survey used three indicators of cannabis dependence drawn from the Ontario Student Drug Use Survey (see Adlaf & Paglia, 2001). Questions 52, 54 and 55 pertain to sustained daily use (daily use for at least one month in a lifetime), uncontrolled use (inability to quit or cut down) and recent attempts to reduce use (tried to cut down in last 12 months).

Question 52

Thinking back over your whole life, has there ever been a period when you used cannabis every day or almost every day for at least a month?

Response	**Points**
No	0
Yes	1

Question 54

Have you ever tried to stop using cannabis but found that you couldn't stop?

Response	**Points**
Have never tried to stop	0
Have been able to stop when I wanted to	0
Have tried to stop but found I could not	1

Question 55

In the LAST 12 MONTHS have you tried to cut down your use of cannabis?

Response	**Points**
No	0
Yes	1

Points were summed and "dependence" was determined by a specific combination of responses. Refer to Table A-2 for classifications and definitions.

Table A-2:
Indicators of Cannabis Dependence Classifications

Response	Total score	Classification
"No" to all questions	0	No indicators
"Yes" for question 52 or question 55 or "have tried to stop" for question 54	1	One indicator
"Yes" for question 52 and either "yes" for question 55 or "have tried to stop" for question 54	2-3	Two – three indicators

Tobacco Use Scale

A tobacco use scale was constructed for the purpose of this study. Students were asked to indicate how often they smoked cigarettes in the last 12 months (question 23). Ten response categories were provided. Refer to the chart below for scores attributed to each response. The range was 0 (non smokers) to 7 (heavy smokers).

Response	Points
I have never tried smoking a cigarette	0
I have tried smoking a cigarette, but I have never smoked again	0
I have smoked, but I have not smoked in the past 12 months	0
I smoke less than 1 cigarette a day	1
I or 2 cigarettes a day	2
3 to 5 cigarettes a day	3
6 to 10 cigarettes a day	4
11 to 15 cigarettes a day	5
16 to 20 cigarettes a day	6
More than 20 cigarettes a day	7

Scale Construction – Risk Factors

Scales were constructed to measure seven of the nineteen risk factors:

- peer risk behaviour,
- mother support/bonding,
- father support/bonding,
- parent approval,
- disconnection with school,
- early signs of leaving school, and
- neighbourhood disorganization.

The following discussion provides a detailed overview of each of the scales that were used. Descriptive statistics and frequencies for each scale are presented in Section 9.

Peer Risk Behaviour

Peer risk behaviour was measured by asking students to respond to the following questions about their peers' behaviour.

Question 72

How many of your close friends:

a. Smoke cigarettes?
b. Drink alcohol?
c. Break the law?
d. Have tried cannabis?
e. Use cannabis regularly?
f. Have tried drugs other than cannabis?
g. Gamble or bet on things for money?

Response	Points
None	1
A few	2
Most	3
All	4

Answers to question 72 (7 parts) were summed. The lowest score was 7 and the highest score was 28. Low scores indicate low peer risk behaviour and high scores indicate high peer risk behaviour.

Mother Support

Two indicators were used to measure perceived relationship with mother (question 61 and 62). These questions pertained to the nature and closeness of the relationship.

Question 61

Please answer the following question about your relationship with your mother by shading one bubble for each statement.

a. How well do you feel that your mother understands you?
b. How much fairness do you receive from your mother?
c. How much affection do you receive from your mother?

Response	Points
I am not in touch with my mother	0
Very Little	1
Some	2
A great deal	3

Question 62

Overall how would you describe your relationship with your mother?

Response	Points
I am not in touch with my mother	0
Not very close	1
Somewhat close	2
Very close	3

Answers to questions 61 (3 parts) and 62 were summed. The lowest score was 0 and the highest score was 12. Low scores reflect poor perceived relationship with mother and high scores indicate strong perceived relationship with mother.

Father Support

Two indicators were used to measure perceived relationship with father (question 63 and 64). These questions pertained to the nature and closeness of the relationship.

Question 63

Please answer the following question about your relationship with your father by shading one bubble for each statement.

a. How well do you feel that your father understands you?
b. How much fairness do you receive from your father?
c. How much affection do you receive from your father?

Response	Points
I am not in touch with my father	0
Very Little	1
Some	2
A great deal	3

Question 64

Overall how would you describe your relationship with your father?

Response	Points
I am not in touch with my father	0
Not very close	1
Somewhat close	2
Very close	3

Answers to questions 63 (3 parts) and 64 were summed. The lowest score was 0 and the highest score was 12. Low scores reflect poor perceived relationship with father and high scores indicate strong perceived relationship with father.

Parental Approval of Smoking Cigarettes, Drinking Alcohol and Using Drugs

Question 67 measured parental approval pertaining to smoking tobacco, drinking alcohol and using drugs. Students were asked to indicate how strongly their parents approved or disapproved of their tobacco, alcohol and drug use. Scores were summed. The range of scores was 3 to 15. Low scores indicated low overall approval and high scores indicated high overall approval.

School Disconnection

Question 75 measured both school disconnection and school connection. Four items (b, d, f & g) were included pertaining to school disconnection.

Students were asked, "Over the past year in school, how often did you

- Hate being in school?
- Find your school work too hard to understand?
- Fail to complete or turn in your assignments?
- Get sent to the office, or have to stay after school because you misbehaved?

Students were provided with the following response categories which were scored as outlined below.

Response	Points
Never	1
Rarely	2
Sometimes	3
Most of the time	4
Always	5

Items b, d, f and g were summed. Scores ranged from 4 to 20. Low scores indicate little disconnection from school and high scores indicate strong disconnection from school.

Early Signs of Leaving

Question 76 measured early signs of leaving school. Students were asked how many times they had "missed a whole day of school because you 'skipped' or 'cut', "missed a whole day of school because you were ill", and missed a whole day of school for some other reason". Response categories included none, 1-3 days, 4-9 days and 10 or more days. Scores were summed. The range of scores was 3 to 12. Low scores reflect low indication of leaving school and high scores reflect a high indication of leaving school.

Neighbourhood Disorganization

One question, comprised of five items, was used to measure neighbourhood disorganization.

Question 80

How much of a problem are the following in your neighbourhood:

a. Litter, broken glass or garbage in the street, on the sidewalk or in yards?
b. Alcoholics and excessive drinking in public?
c. Groups of young people who cause trouble?
d. Burglary of homes and apartments?
e. Unrest due to ethnic, racial or religious differences?

Response	Points
No problem	1
Somewhat of a problem	2
A big problem	3

Scores for the five items were summed. The lowest score was 5 and the highest score was 15. Low scores indicate little neighbourhood disorganization and high scores indicate strong neighbourhood disorganization.

Scale Construction – Protective Factors

Seven of the eight protective factors were measured by scales. A pre-existing scale was used to measure social skills. Scales were constructed to measure the following factors:

- participation in pro-social activities,
- peer influence on decision making,
- parental monitoring,
- school connection,
- positive adults in neighbourhood, and
- availability of pro-social activities.

The following discussion provides a detailed overview of each of the above scales. Descriptive statistics and frequencies for each scale are presented in Section 10.

Social Skills Scale

Social skills was measured by the Social Skills Scale developed by Harrison (1997). Students were asked to respond to the following four questions.

Question 56

You're looking at CD's in a music store with a friend. You look up and see her slip a CD under her coat. She smiles and says, "Which one do you want? Go ahead, take it while nobody's around." There is nobody in sight, no employees and no other customers. What would you do now? (Choose one response only)

Response	Points
Grab a CD and leave the store.	1
Ignore her.	2
Tell her to put the CD back.	3
Act like it's a joke and ask her to put the CD back.	4

Question 57

It's 8:00 on a week-night and you are about to go over to a friend's home when your mother asks you where you are going. You say, "Oh, just going to go hang out with some friends." She says, "No, you'll just get into trouble if you go out. Stay home tonight." What would you do now? (Choose one response only)

Response	Points
Leave the house anyway	1
Get into an argument with her.	2
Not say anything and start watching TV.	3
Explain what you are going to do with your friends, tell her when you'd get home, and ask if you can go out.	4

Question 58

You are visiting another part of town and you don't know any of the people your age there. You are walking down the street and some teenager you don't know is walking toward you. He is about your size, and as he is about to pass you he deliberately bumps into you and you almost lose your balance. What would you say or do? (Choose one response only)

Response	Points
Push the person back.	1
Swear at the person and walk away.	2
Say "Watch where you're going" and keep on walking.	3
Say "Excuse me" and keep on walking.	4

Question 59

You are at a party at someone's house and one of your friends offers you a drink containing alcohol. What would you say or do? (Choose one response only)

Response	Points
Drink it.	1
Make up a good excuse, tell your friend you had something else to do, and leave.	2
Just say, "No thanks" and walk away.	3
Tell your friend, "No thanks, I don't drink" and suggest that you and your friend go and do something else.	4

Answers to questions 56 to 59 were summed. The lowest score was 4 and the highest score was 16. Low scores indicate poor social skills and high scores indicate strong social skills.

Peer Influence on Decision Making

Peer influence on decision making was measured by the following question comprised of three items.

Question 73

For the following statements, shade the circle that best corresponds to your situation with your close friends. As outlined below, the response categories were the same for items a and b but were reversed for item c.

a. My close friends push me to succeed and to do interesting things that I would not do myself
b. When I make a decision, I take my close friends' opinion into account

Response	Points
Always false	-2
Mostly false	-1
Mostly true	+1
Always true	+2

c. My close friends sometimes push me to do foolish or stupid things.

Response	Points
Always false	+2
Mostly false	+1
Mostly true	-1
Always true	-2

Scores were summed. As this scale is based on bipolar response categories, the responses can be negative or positive. The lowest score is -6 and the highest score is +6. Low scores indicate low levels of peer influence and high scores indicate high levels of peer influence.

Parental Monitoring

The following question comprised of four items was used to assess perceived level of parental monitoring.

Question 66

Please answer the following questions by shading one bubble for each statement.

a. My parents know where I am after school
b. When I go out at night, my parents know who I am with
c. When I go out at night, my parents know where I am
d. When I go I out on weekend nights, I have to be home by a set time

Response	**Points**
Never	1
Rarely	2
Sometimes	3
Most of the time	4
Always	5

Responses to question 66 were summed. The lowest score was 4 and the highest score was 20. Low scores indicate a low perceived level of parental monitoring and high scores indicate a high perceived level of parental monitoring.

School Connection

As mentioned earlier in this section, question 75 measured both school disconnection and school connection. Three items (a, c & e) were included pertaining to school connection.

Students were asked, "Over the past year in school, how often did you"

- Enjoy being in school?
- Try to do your best work in school?
- Find your school work interesting?

The following response categories were provided which were scored as outlined below.

Response	**Points**
Never	1
Rarely	2
Sometimes	3
Most of the time	4
Always	5

Items a, c and e were summed. Scores ranged from 3 to 15. Low scores indicate little engagement in school and high scores indicate strong engagement in school.

Positive Adults in Neighbourhood

One question, comprised of four items, was used to measure the perceived level of prosocial attitudes and behaviours promoted by adult neighbours.

Question 77

In my neighbourhood:

a. My neighbours notice when I am doing a good job and let me know.
b. There are people in my neighbourhood who encourage me to do my best.
c. There are people in my neighbourhood who are proud of me when I do something well.
d. I can talk with adults in my neighbourhood about things that are important.

Response	Points
Never	1
Rarely	2
Sometimes	3
Most of the time	4
Always	5

Scores for the four items were summed. The lowest score was 4 and the highest score was 20. Low scores indicate little perceived neighbourhood support and high scores indicate strong perceived neighbourhood support.

Availability of Pro-Social Activities

Availability of pro-social activities was measured by question 78 comprised of six items. Students were asked to respond "yes" or "no" regarding the availability of each activity.

Question 78

Which of the following activities for young people are available in your community:

a. school sports teams
b. community sports teams
c. scouting
d. Boys and Girls clubs
e. 4-H Club
f. service clubs

"Yes" responses were summed to provide the total number of pro-social activities. The range was 0 to 6. Low scores indicate a low level of availability of pro-social activities and high scores indicate a high level of availability of pro-social activities.

Participation in Pro-Social Activities

Participation in pro-social activities was measured by four items from question 79.

Question 79

In a typical week, how often do you take part in the following?

a. After hours school sports
b. Community sports (evening and weekends)
c. Church groups
d. Clubs (Scouts, 4-H, service clubs)

Response	Points
Never	1
1-2 times	2
3-4 times	3
5-6 times	4
Pretty much every day	5

Scores were summed and the range of scores was 4 to 20. Low scores indicate low participation in pro-social activities and high scores indicate high participation in pro-social activities.

APPENDIX B

LETTER TO PARENTS

(School letterhead)

{Date}

Dear Parents:

This fall, over 4,000 students in 100 Alberta schools will be surveyed about their experiences with tobacco, alcohol, drugs and gambling. As well, information will be gathered about factors that help predict and prevent substance use and abuse, such as individual characteristics, community support and peer and family relationships. This information is critical to help schools, social service agencies and government departments develop programs to help prevent or respond to adolescent substance abuse or gambling. The survey is sponsored by the Alberta Alcohol and Drug Abuse Commission (AADAC) and is a major part of their programs to help Alberta's youth.

Our school was randomly selected to take part in this study. Your School Superintendent and myself have approved the survey and agreed to participate in this important study of Alberta's youth.

The purpose of this letter is to explain how the survey will be administered and to seek your consent to have your child participate. **Please review the attached information about the survey, and if you agree with your child's participation, please sign the consent form and return it to the school as soon as possible.**

Thank you for taking the time to read this letter. We hope that you can appreciate how this survey will help provide better service for all Alberta adolescents. For more about this project please contact (Project Manager's name and telephone number) or (AADAC Research Manager's name and telephone number).

I do hope you will agree to have your child participate in this important survey. This information is vital to helping our youth achieve lives free from the abuse of alcohol, other drugs and gambling.

Thank you for your cooperation.

{Principal's Signature}
{Principal's Name}

APPENDIX C

INFORMED CONSENT INFORMATION AND CONSENT FORM

(AADAC letterhead)

Informed Consent - Please Read Before Signing

What does my consent mean?

Your consent means that you agree that your child may take part in the survey. Before completing a survey, the youth's parent or guardian MUST have signed the attached consent form. Even though the parent or guardian has consented, a youth can still decide not to participate. As well, a youth can choose not to answer individual questions and can stop answering the survey at any point. If a youth stops answering the survey, it will be destroyed and not analysed.

Where no consent is provided, students will be given a quiz on facts about alcohol, other drugs and gambling to complete. The quiz looks like the survey, but it will not be marked and will be destroyed at the school. Answers are included at the back of the quiz so that students can see whether they got the answers right. The quiz is a requirement of the ethical review board and is done to make sure that students will not be able to tell who had permission to fill out the survey and who did not. This will avoid any students feeling singled out.

How will anonymity and confidentiality be ensured?

Surveys will be completed anonymously – school staff, the consultant conducting the research and AADAC will NOT know the name of any student who completes a survey. The survey will be distributed, administered and collected by a consultant, not school staff. There are no marks on the survey to identify the school, the class or the student. Students will be given written and verbal instructions NOT to write their names or any other identifying marks on the survey. The entire survey is completed by shading bubbles. NO individual school or school board survey results will be released. Results will be presented as part of a larger geographical area e.g., Edmonton, southern Alberta.

What is an Ethical Review?

The project has received ethical review and approval by an independent ethical review board. This board reviews all aspects of the research to ensure it is conducted to the highest international standards and that no individual's rights or freedoms are compromised.

What will my child be asked?

The survey asks questions about awareness and use of alcohol, tobacco and other drugs and gambling. There are also questions about factors that may influence use. If students are not comfortable with answering any questions, or are not certain, they will be instructed to skip the question. There are no questions in the survey that can in any way determine who the student is. The survey will take 20-30 minutes to complete and will be completed during class time. A copy of the survey is available at the school office if you wish to review the questions prior to offering your consent.

(AADAC letterhead)

PARENT/GUARDIAN CONSENT FORM

I, ______________(Parent or Guardian) provide consent for ____________________
circle one name of son, daughter, or dependent

to complete The Alberta Youth Experience Survey 2002 at school during October or November 2002.

I have read the letter and the information sheet that was attached to this consent form, and in providing my consent I understand that:

- Surveys will be completed anonymously – school staff, the consultant conducting the research and AADAC will NOT know the name of any student who completes a survey.
- The survey will be distributed, administered and collected by a consultant, not school staff.
- My son or daughter may choose not to participate even if I have provided consent. My son or daughter can stop answering a survey that he or she has started and ask that the survey be destroyed.
- NO individual school or school board survey results will be released. Results will be presented as part of a larger geographical area e.g. Edmonton, southern Alberta.
- All original surveys will be destroyed by December 15, 2002.

Signature: ______________________________ Date: ______________________

Please return this form to the school immediately.

APPENDIX D

DESCRIPTIVE STATISTICS

Descriptive Statistics for Risk and Protective Factors

	Mean	Median	Range	SD	N
Risk Factors					
Age	4.53	5.00	1 – 10	1.79	263,511
Grade at first start: alcohol	4.23	4.00	1 – 9	1.84	154,522
Grade at first start: tobacco	4.12	4.00	1 – 9	1.81	64,666
Grade at first start: cannabis	5.24	5.00	1 – 9	1.54	73,168
Grade at first start: gambling	3.43	3.00	1 – 9	1.98	119,449
Ease of access: alcohol	3.33	4.00	1 – 4	0.86	208,595
Ease of access: cigarettes	3.11	3.00	1 – 4	1.01	199,142
Ease of access: cannabis	2.79	3.00	1 – 4	1.14	176,589
Peer risk behaviour	12.41	12.00	7 – 28	4.54	244,684
Mother support	10.19	11.00	0 – 12	2.35	254,165
Father support	8.93	10.00	0 – 12	3.28	251,729
Family discord	3.31	4.00	1 – 4	0.91	238,236
Family history of abuse	0.26	0.00	0 – 1	0.44	255,568
Smoking in family	0.52	1.00	0 – 1	0.50	255,939
Parent approval	4.68	4.00	3 – 15	2.16	250,415
School marks	1.83	2.00	1 – 5	0.95	252,319
School disconnection	9.20	9.00	4 – 20	2.34	246,143
Early signs of leaving	4.30	4.00	3 – 12	1.32	254,389
Neighbourhood disorganization	13.65	14.00	5 – 15	1.94	167,480
Protective Factors					
Social skills	11.78	12.00	4 – 16	2.60	252,301
Participation in pro-social activities	6.20	6.00	4 – 20	2.19	240,151
Peer influence	1.74	2.00	-6 – 6	1.94	250,741
Parental monitoring	16.15	17.00	4 – 20	3.23	253,090
School marks	1.83	2.00	1 – 5	0.95	252,319
School connection	9.88	10.00	3 – 15	2.25	249,368
Positive adult neighbours	8.78	8.00	4 – 20	4.61	248,553
Availability of pro-social activities	3.13	3.00	0 – 6	1.68	243,129

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AADAC

Alberta Alcohol and Drug Abuse Commission
An Agency of the Government of Alberta

For more information, contact your local AADAC office
or call 1-866-33AADAC or visit our Web site
www.aadac.com

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